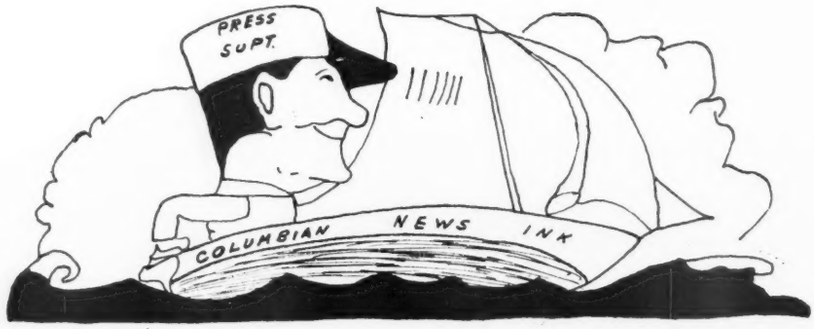
PRINTING EQUIPMENT ENGINEER

Edited for those concerned with the use and care of Printing Equipment

MARCH 1932



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Fine building Unique means

36 Point Ludlow 30-M Karnak Medium — 36 Point Ludlow 30-L Karnak Light

Stylish brochure Eight huge homes

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Responsible workers Learning is gratifying

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Ludlow designs in demand Modern hats are now in style

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New department store advertising Ludlow slugs stand heavy dry mat pressure

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A E K M N W Ludlow Karnak Round Caps made for all sizes and are sold separately A E K M N W

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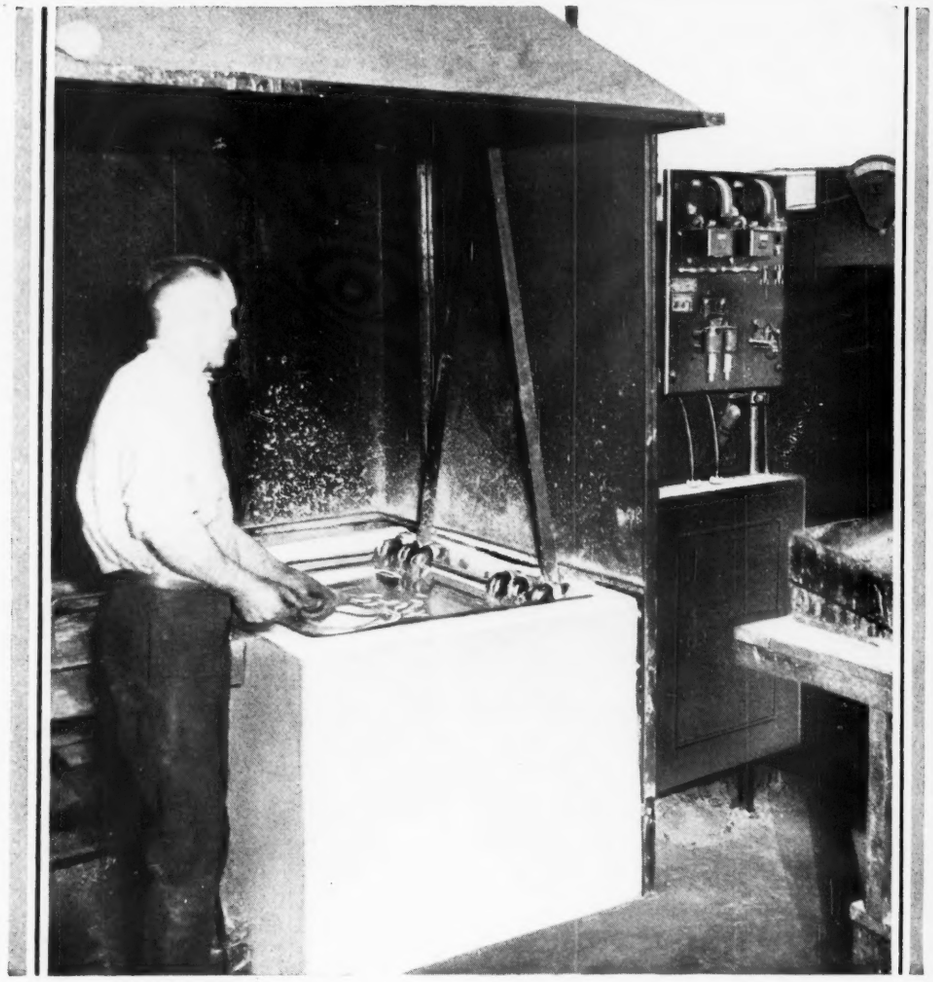

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570-171

GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES

PRINTING EQUIPMENT ENGINEER

TRADE MARK REGISTERED U. S. PATENT OFFICE. ESTABLISHED 1910

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Let others also read *The Engineer*

After you have read this copy, pass this magazine along to the other men in your organization. They will undoubtedly get helpful ideas from its pages.

Check in left column after reading. Note articles of interest.

☐ *Composing Room Superintendent*

☐ *Superintendent Press Room*

☐ *Chief Composing Room Machinist*

☐ *Superintendent Stereotype Foundry*

☐ *Monotype Department*

☐ *Photo Engraving Department*

☐ *Superintendent Electrotype Department*

☐ *Foreman Lithographing Department*

☐ *Bindery Foreman*

☐ *Production Manager*

☐ *Mechanical Superintendent*

☐ *Manager*

☐ *Purchasing Agent*

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MY! What a single

WRONG LETTER *can do!*

* A dispatch from Moorehead, Minn., said Red River Valley farmers will love heavily because of potatoes damaged by freezing in the fields.

* The Bishop will then go to Chicago for a weep.

* We have not done any business with firms or persons in America since Prohibition came into farce in that country.

*From "Breaks" compiled by W. W. Scott.

FOOLISH errors, all of them—and evidently all "railroaded." With the Black and White Contrast Matrix the operators would have caught these errors as they glanced at the assembler before sending the line up—and saved themselves a "bawling-out" from the foreman.

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Contrast Matrix

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PRINTING
EQUIPMENT
ENGINEER
March, 1932

Progress and the Engineer

By GEORGE C. VAN VECHTEN*

George C. Van Vechten Tells How Progress Within the Printing Industry Depends Upon the Results of Research Work and the Creation of New Products by the Engineer.

THE Third Conference of the Technical Experts in the Printing Industry will be a memorable event in the minds of those responsible for its inception. It will outclass any Conference held heretofore.

Many subjects will be covered which are of vital importance to the Graphic Arts and which are concerned with Progress. Representative men who are outstanding in their achievements in the industry will attend, exchange ideas and impart their knowledge to their fellowmen.

The medium for this remarkable gathering is the American Society of Mechanical Engineers, who have fostered this method of promoting the advancement of the profession for many years, and it is gratifying to know that the Graphic Arts has focused its attention on the Engineering Profession.

The Printing Industries Division of this great Society can be congratulated on the wonderful progress which has been made in such a comparatively short time. Within seven years this Division has achieved international fame.

The Conference held in Pittsburgh in November, 1929, at Carnegie Institute was the forerunner of a career that the Industry will be proud of in the years to come. At that meeting twenty-six representative groups identified with the Printing Industry were represented. The Conference was called in response to a feeling that our great industry could not survive without basic research. Our sister industries individually or collectively provide millions of dollars for research in their budgets. Research and the creation of new products is necessary for the perpetuation of industry. This applies also to Printing. At that time reports of progress covering research work conducted by individual or groups of industries were made. It was the purpose of this meeting to develop a program for coordinated research in the industry, and it is the hope of the Committee that it will be realized in the future.

The Printing Industries Division has a definite field in the Graphic Arts and a constructive program should be established on a broad, conservative basis, whereby the functions of Engineering in its many phases as applied to Printing can be promoted. The broad scope of this profession should be a lasting contribution to the Art. The Industry has been in existence since the days of Gutenberg developing a craftsmanship which

*Chairman, Printing Industries Division, American Society Mechanical Engineers.

is cherished and guarded by tradition, but in the development of these achievements the Engineer was rarely identified.

Problems of Management, Production and Research are within the province of Engineering and the Printing Industries Division through its technical membership is the coordinating medium for the promotion of these important factors. Industrial Engineering has been responsible for greater production and lower costs in a great many industries, placing commodities within the reach of the purchasing power of the ultimate consumer on a scale which has been a revelation.

Proper coordination of Productive Effort, Consumption, and Man Power is necessary to properly stabilize our economic system, eliminate unemployment and still maintain our present standard of living. The Engineer and the Division have a definite obligation to perform in the process of stabilization.

Third Conference of Technical Experts

PRINTING INDUSTRIES DIVISION, A. S. M. E.

THE Third Conference of the Technical Experts in the Printing Industry, will be held March 14-15, in the building of The McGraw-Hill Publishing Co., Inc., 330 West 42nd St., between Eighth and Ninth Avenues, New York, N. Y.

This Conference is sponsored by the Printing Industries Division, American Society of Mechanical Engineers. The New York Club of Printing House Craftsmen will assist in entertaining those attending the convention. The McGraw-Hill Publishing Co. is the official host and all the organizations and associations in the Graphic Arts will participate.

The Formal Sessions will be held in the Conference Hall on the 14th floor, the Group Conferences on Standardization and Research Projects in the Auditorium on the 33rd floor, and the banquet in the Hotel Astor.

Arrangements have been made to take visiting ladies on trips of interest each afternoon. Ladies' headquarters and registration will be in Parlor No. 4, Hotel Astor. Ladies are welcome at the banquet.

Those Who May Attend

For the benefit of those mechanical executives who have made inquiry, Edward Pierce Hulse, Secretary of the Printing Industries Division, A. S. M. E., says that all who are interested in the subjects before the conference are invited. There are no restrictions on attendance and no registration fee. These Technical Conferences are truly the forum for the discussion of printing problems.

MORNING SESSION, MONDAY, MARCH 14

9:00 a. m. Registration: 14th floor, McGraw-Hill Building, 330 West 42nd Street. All are requested to register and to wear the identifying name badges. There is no registration fee. The Craftsmen will also have members on hand to greet visitors.

9:30 a. m. Opening of the Conference: By the Chairman, FLOYD E. WILDER, Mechanical Research, Hearst Publications, Inc., New York, N. Y.; Chairman of Meetings and Program Committee, Printing Industries Division, A. S. M. E.

9:35 a. m. Welcome: By MALCOLM MUIR, President, The McGraw-Hill Publishing Company, New York, N. Y., the official host.

9:40 a. m. "The Art of Printing as a Source of Special Satisfaction." By DR. CALVIN W. RICE, Secretary, The American Society of Mechanical Engineers, New York, N. Y.

TECHNICAL PROGRAM

(NOTE: As the following addresses have been pre-printed, presentation will be by abstract, to take 10 minutes. The names under the head of Discussion, following each address, are of those that have prepared brief discussion or that have advised that they will speak on the subject. These will be called upon by the Chairman, each discussion to take 5 minutes. General discussion will follow. Each one responding is requested, upon recognition by the chair, to give name, connection, and city.)

9:50 a. m. (1) "Application of Engineering to the Printing Industry." By GEORGE C. VAN VECHTEN, Superintendent, Stecher Lithograph Company, Rochester, N. Y.; Chairman, Printing Industries Division, A. S. M. E.

Discussion: Charles W. Kellogg, Engineering Department, American Type Founders Company, Jersey City, N. J. (layout). W. N. P. Reed, International Typographical Union No. 6, New York, N. Y. (lighting). Thomas R. Jones, Vice-President, Harris-Seybold-Potter Company, Cleveland, Ohio (obsolescence as it affects profits). A. B. Segur, A. B. Segur & Co., Industrial Engineers, Chicago, Ill. (motion-time analysis). Earl F. Mount, American Colortype Co., New York, N. Y. General discussion and questions on both paper and discussion.

10:45 a. m. (2) "Developments in New Printing Processes." By CLARENCE L. JOHNSTON, Consulting Printing Engineer, San Francisco, Cal.

Discussion: William J. Wilkinson, President, Zeese-Wilkinson Company, Inc., Long Island City, N. Y. (printing from rubber plates). M. R. Pellissier, Technical Adviser on Gravure, Maplewood, N. J. (sheet-fed gravure). Charles J. MacArthur, MacArthur Corporation, East Orange, N. J. (handicaps to overcome in sheet-fed gravure). George H. DeWitt, Service Department, Corday & Gross Company, Cleveland, Ohio (sheet-fed gravure). William S. Fowler, Hampden Glazed Paper and Card Company, Holyoke, Mass. (rubber-plate printing with oil inks). William Hudson, The Davis Press, Worcester, Mass. (methods with silver inks and "scratch-proof" black ink). Alexander Murray, Eastman Research Laboratories, Rochester, N. Y. Stephen Henry Horgan, Albany, N. Y.

General discussion and questions.

11:25 a. m. Group Conference on "Thickness of Curved Plates and the Depth of the Recess for Such Plates, Taking the I. A. of E. Recommendations as a Working Basis," FRED S. ENGLISH, Chief Engineer, Babcock Printing Press Mfg. Co., New London, Conn., presiding. (In Auditorium on 33rd floor.)

Luncheon.

12:45 p. m. Inspection of the McGraw-Hill Plant. Group leaves from 14th floor promptly at 1 p. m.

1:00 p. m. "The Physical Principles of Television." By DR. J. O. PERRINE, Research Department, The American Telephone and Telegraph Company, New York, N. Y. Accompanied by demonstrations and experiments. (In Auditorium on 33rd floor.)

AFTERNOON SESSION, MONDAY, MARCH 14

2:00 p. m. (3) "Advanced Stereotype Methods." By ARNOLD A. SCHWARTZ, President, Art Color Printing Co., Dunellen, N. J.

Discussion: George A. Kubler, President, Certified Dry Mat Corporation, New York, N. Y.

2:10 p. m. (4) "Advanced Electrotype Methods." By JOHN H. DAVIS, General Manager, Judd & Detweiler, Washington, D. C.

Discussion: George A. Kubler, President, Certified Dry Mat Corporation, New York, N. Y. George B. Drach, General Superintendent, Jersey City Printing Company, Jersey City, N. J. Harry A. Groesbeck, President, Walker Engraving Company, New York, N. Y. Dr. William Blum, Chemist, Bureau of Standards, Washington, D. C. (technical status of electrotyping). J. Fremont Frey, Vice-President, International Stereotypers' and Electrotypers' Union, care of "The News," Indianapolis, Ind. A. W. Bishop, Superintendent of the Printing Plant, University of Chicago Press, Chicago, Ill. (stereotype plates for book work).

General discussion and questions.

3:30 p. m. (5) "Premakeready Developments." By GEORGE F.BRYANT, The Bryant Company, Chicago, Ill.

Discussion: H. A. Roefer, W. F. Hall Printing Company, Chicago, Ill.

General discussion and questions.

4:00 p. m. Research Group Conference on "Humidity as It Affects Printing," C. W. DAVIS, J. Horace McFarland Company, Harrisburg, Pa., presiding. (In Auditorium on 33rd floor.)

7:00 p. m. Banquet, Rose Room, The Hotel Astor, Broadway and 44th Street. (Tickets $3.50.)

Toastmaster, ARTHUR C. JEWETT, Director, College of Industries, Carnegie Institute of Technology, Pittsburgh, Pa.; member of Executive Committee and Past Chairman, Printing Industries Division, The American Society of Mechanical Engineers.

Special Guests and Speakers: HON. GEORGE H. CARTER, the Public Printer of the United States, Government Printing Office, Washington, D. C. MR. JOSEPH F. GILLICK, President, The American Type Founders Company, Jersey City, N. J. MR. HAROLD P. WINCHESTER, Treasurer, The J. B. Lyon Company, Albany, N. Y.; the New York State Printer.

Seated at the Guest Table: MR. JEWETT; MR. CARTER; MR. GILLICK; MR. WINCHESTER; DR. CALVIN W. RICE, Secretary, The American Society of Mechanical Engineers; E. D. CONKLIN, *Vice-President, McGraw-Hill Company*; GEORGE C. VAN VECHTEN, Chairman, Ptg. Ind. Divn.; EDWARD PIERCE HUISE, Secretary and former Chairman, Ptg. Ind. Divn.; FLOYD E. WILDER, Chairman, Meetings and Program Committee, Ptg. Ind. Divn.; JOHN CLYDE OSWALD, member Executive Committee, Ptg. Ind. Divn.; WILLIAM C. GLASS, Chairman, Banquet Committee, and former Chairman, Ptg. Ind. Divn.; JOSEPH M. FARRELL, *Chairman, Group Conferences*; EDWARD EPSTEAN, President, Photoengravers' Board of Trade of New York; DR. ERNEST F. EILERT; ERIC R. ANDERSON, President, New York Club of Printing House Craftsmen; JULIUS WIDMAYER, former President, New York Craftsmen; MONTAGUE LEE, President, New York Employing Printers' Association.

BANQUET DEMONSTRATION PROGRAM

"The Automatic High-Speed Radio Printer System." By W. G. H. FINCH, Chief Engineer, American Radio News Corporation, New York, N. Y.

"The Telephotograph Service." By DR. J. O. PERRINE, American Telephone and Telegraph Company, New York, N. Y.

"The Stroboscope" (a method of inspecting printed matter or checking color register while it is speeding through the press). By D. R. SHOULTS, Industrial Engineering Department, General Electric Company, Schenectady, N. Y.

"The Walter Howey Photoelectric Engraver Process" (a direct engraving process by which light is reflected from the subject to a photoelectric cell, the amplified current of which controls and variably operates an engraving tool at a distance that etches or engraves a printing plate). By B. W. WOODWARD, Chief Engineer for Walter Howey, General Manager of International News Photos, Inc., New York, N. Y.

Cabinet Exhibit: "Edison as a Printer." Photos of the only existing copy of "The Weekly Herald," as "published by A. Edison" on a car of the Grand Trunk Railway in 1862.

MORNING SESSION, TUESDAY, MARCH 15

9:00 a. m. (6) "Newspaper Multi-Color Printing." By GEORGE E. PANCOAST, Mechanical Superintendent, The Hearst Publications, New York, N. Y.

Discussion: William F. Marose, Superintendent, Stereotype Department, "The Post-Dispatch," St. Louis, Mo.

General discussion and questions.

9:45 a. m. (7) "Progress in Offset Printing." By OTTO R. TRAMPUSCH, Engineer, R. Hoe & Co., New York, N. Y.

General discussion and questions.

10:25 a. m. Introduction by JOSEPH M. FARRELL, The Blackman Company, New York, N. Y.; Chairman of Committee on Mechanical Production, American Association of Advertising Agencies.

(8) "What Can Science Do for Practical Determination of Color Standards for Printing?" By DR. L. A. JONES, Chief Physicist, Kodak Research Laboratories; past-President of the Society of Motion Picture Engineers; past-President of the Optical Society of America; Vice-Chairman of Inter-Society Color Council.

Discussion: Dr. I. H. Godlove, Washington, D. C.; Chairman, Committee on Measurement and Specification, Inter-Society Color Council; Director of Research, Munsell Color Company, 1926-30; Director of the Exhibition of the Science and Art of Color, Museum of Science and Industry, New York, 1930-31; Color Editor, Webster's International Dictionary, to date. Dr. Walter M. Scott, Boston, Mass.

General discussion and questions.

11:00 a. m. Group Conference on "Standards on Paper." ROBERT C. FAY, Chairman of Standardization Committee, American Paper and Pulp Association, presiding. (In Auditorium on 33rd floor.)

11:20 a. m. Demonstration: "The Automatic Printing Visagraph" (an apparatus for automatically reproducing a magnified and raised copy of the printed page). By ROBERT E. NAUMBURG, Cambridge, Mass.

This small apparatus (greatly reduced in size since being shown before the Division at Rochester in 1928) reproduces any printed page or line drawing or chart on heavy foil, the contrasts being registered by selenium cell, and varying-strength electric impulses over a wire actuating an embossing punch or tool from the under side of the sheet so that the object is reproduced in enlarged form raised above the surface. It has uses in engineering work and in the graphic arts, but particularly in opening up to those of failing sight and to the blind all special and current literature not obtainable by Braille printing. The ladies attending the conference may especially be interested in seeing the Visagraph demonstrated by a blind reader. Anyone is at liberty to test the machine to see how easy it is to learn reading by the finger-tips.

Luncheon.

General discussion and questions.

12:45 p. m. Inspection of the McGraw-Hill plant. Groups leave from 14th floor at 1 p. m.

AFTERNOON SESSION, TUESDAY, MARCH 15

2:00 p. m. (9) "Relation of Press Speeds to Production." By JOHN J. MALONEY, Assistant to the President, The New York Newspaper Printing Pressmen's Union No. 2, New York, N. Y.; Chairman of Newspaper Apprenticeship Commission.

General discussion and questions.

2:45 p. m. (10) "Condition of Paper as it Affects Printing." By WILLIAM G. MACNAUGHTON, Manufacturing Department, International Paper Company, New York, N. Y.; former Secretary, Technical Association of the Paper and Pulp Industry; former Engineer, News Print Service Bureau.

Discussion: B. W. Scribner, Chief of Paper Section, Bureau of Standards, Department of Commerce, Washington, D. C. Miss Helen U. Kiely, Chief Chemist, American Writing Paper Company, Holyoke, Mass. B. L. Wehmhoff, Technical Director, Government Printing Office, Washington, D. C. Wm. R. Maull, Philadelphia, Pa.; Chairman, Paper and Pulp Committee, Ptg. Ind. Divn., A. S. M. E.

General discussion and questions.

3:30 p. m. (11) "Printing Rollers." By ARTHUR H. BURNS, Mechanical Superintendent, "The Herald Tribune," New York, N. Y.

General discussion and questions.

4:15 p. m. Group Conference: "Closer Cooperation Between the Different Printing Crafts," JOSEPH M. FARRELL, presiding. (In Auditorium on 33rd floor.)

Offset Plate Graining

By FRANK O. SULLIVAN

IT WILL be the purpose of the writer, in the next two or three issues of this publication, to explain the graining of plates, transferring and the simple formulas and methods of preparing plates for the press. The idea is that the student of Offset Lithography may be able to follow these articles step by step and not go wrong.

PLATE GRAINING

By the graining of a metal plate is meant roughening its surface so that it will not only hold the sensitizer with which the plate is coated in the whirler, but will also readily absorb or retain the ink lines or image of the design and retain the moisture on the bare parts of the plate. Aluminum appears to absorb ink, while a zinc plate must be grained so it will be absorbent to water and that the ink is held between the minute projections of its surface. It is more difficult to remove old work from a zinc plate unless pumice and friction are used, in which case it must be regrained oftener. Aluminum gives slightly better results than zinc, but requires more skillful handling. Hence, zinc plates are used considerably more in the lithographing industry than aluminum plates. All of the processes given hereafter are applicable to zinc plates, but most of them may, with slight modifications, be applied to aluminum. Plates may be purchased already grained from any of the lithographic supply houses.

For particular reasons the best method of graining plates is by sprinkling the plate with pumice, dampening it and rapidly spinning glass or wooden marbles or steel balls over its surface. About 7/8 in. to 1 in. glass or porcelain marbles are used for zinc plates; also, 1/2-in. steel balls, while wooden marbles are used for aluminum. The use of steel balls is not advocated, for unless the operator of the graining machine is skillful and thoroughly cleanses the plate after graining, there is danger of traces of iron being left, which forms an iron oxide on the plate and causes difficulty. The fineness of the grain depends upon the fineness of the sand and pumice, the size of the marbles and their composition.

PLATE GRAINING MACHINE

A commercial plate graining machine consists of a flat box supported upon four rather large steel balls. Two eccentrics are attached to the box and actuated by gearing so that the box is given an oscillatory motion. This motion causes the marbles to describe small circles about their stationary positions. Such a machine should make about 120 r.p.m. and the marbles should move along circles having a radius of about 1 1/2 in. The plate should be placed in the graining machine on a metal base in order to get a perfectly grained plate. If a rubber blanket is used upon which to lay the plate, this blanket has a resiliency which causes the marbles to hop, and this has a tendency to hammer the grains down instead of allowing them to stand in an upright position. It requires about one hour to grain a new plate and about forty-five minutes to regrain an old one.

McKinley Plate Graining Machine, Cincinnati, Ohio.

Chemical graining can be done by sponging a plate with a solution consisting of the following:

6 oz. of Nitric Acid.
1 gal. of water.
1/2 lb. Alum.

Five minutes of this should produce a dull silver finish and a grain that is especially good for short runs in photo-lith work. The plate is now ready for receiving the transfer photo or hand-drawn image and must not be touched by the hands.

TRANSFERRING

The paper used in this process is a specially prepared paper of a transparent nature, commercially known as transfer paper. The side upon which the tracing or proof from master plate is made is coated with a solution of glycerine and starch and can be purchased

(Continued on page 33)

Mr. Vanderjagt Has Our Thanks

Milwaukee, Wis., Jan. 22, 1932.

Printing Equipment Engineer,
Cleveland, Ohio.

Gentlemen:

We are writing you to see if it is possible to obtain duplicate copies of your publication for the months of June and July, 1931.

We like your publication so well that we are having them all bound up in book form for the entire year.

Respectfully,
A. L. Vanderjagt,
Vice President and Superintendent,
The Cramer-Krasselt Co.

The Problem of Obsolescence

By JOHN CLYDE OSWALD*

WITHIN the last six months one of New York's well-known printing companies was forced to go into bankruptcy. When its plant was sold at auction, two large cylinder presses were bought for less than a hundred dollars each, the purchasers making at the time of the sale a deposit of ten dollars on each press. The other property auctioned off having been removed, the printer called the purchasers of the two cylinder presses on the phone and the reply he received in both cases was that they had decided not to complete the payments, preferring on careful examination of the presses to lose their deposits. The printer therefore was having trouble in getting the presses off his floor. I gave him the name of a junk dealer who sold them as so many pounds of old iron.

Another New York printer of long standing has decided to modernize his plant, which consists of fourteen job and cylinder presses of various makes and varying degrees of age and condition. A representative of a printing press company being called in for a survey, reported to his company that four up-to-date machines could produce as much as the fourteen old ones had been producing. The printer then went to the office of the company for further consultation, and one of his first questions was, "How much will you allow for the machines I am turning in?" He nearly fell off his chair when he received the reply, "Two hundred dollars." The manager of the printing press company explained that the machines would be broken up and sold for whatever price they would bring in the metal market, and that the printer was being credited with the full amount they would bring on that basis.

The Standard Dictionary defines obsolescence as "the condition or process of gradually falling into disuse." It is the fact that the process is gradual that causes so much shock to printers when the time comes for the final reckoning. They, too, often go on thinking of their machinery in terms of its installation, which is of course a great mistake. In reality, the money value of a machine goes down about twenty-five per cent the day after it is installed, the reason being that once in place in a plant, it becomes "used" or second-hand. It continues to deteriorate gradually through use and age as speedily as new and improved devices are invented and marketed.

There are remedies against actual lessening of value. One is that of careful maintenance. The wise superintendent sees to it that his workmen keep their presses clean and well oiled. One New York printer, now deceased, had all his presses painted white, which he felt provided an urge to his workmen to keep them as nearly immaculate possible, and anyone who drives a car knows how necessary it is to keep the parts of a machine well oiled.

The next consideration is to keep presses in repair. This means not only replacing broken and worn out parts as they present themselves; it means a system of inspection that will anticipate such contingencies. Printing presses, through the vibrations of buildings, are apt to become "pigeon-toed," just as do automobiles. They require truing up, which not only keeps them in better condition as far as wear goes, but improves the quality of production. Absolute register cannot be had on a machine that is out of line.

How Problem May Be Solved

The obsolecence problem is a vexatious one, with many angles. Its solution seems to require rigid adherence to sound business and management principles and a full measure of cooperation between the responsible elements of both the printing and supply trades.

The third consideration in taking care of obsolescence is that of adequate depreciation. The company that charges off ten per cent per year, as all companies should, against its machinery, is providing for the future in the only way open to successful business management. There are companies that not only make such a provision on their books, but set aside cash reserves in separate bank accounts. Repairs, replacement and new equipment are paid for out of the sums thus segregated. These companies are never subjected to the shock of discovering that equipment supposed to be valuable is worth nothing excepting as so much junk.

Reference above has been made only to the press-room. The statements apply with equal force to the composing-room and bindery, excepting that in the composing-room the rate of depreciation is greater. Type in constant use should be depreciated twenty-five per cent per annum. It wears out quickly and the faces, other than a few that are standard, go out of style.

An important phase of the obsolescence problem is that of "trade-in" value. As a rule the attitude of the purchaser of a new machine is primarily and not secondarily, as should be the case, that of the seller of an old one. His first thought is to get as much as possible for that which is to be replaced. Most of the evils of the trade spring from this condition. The manufacturer, in order to make a sale, is obliged to take the old machine, and usually he sells it to a second-hand dealer. Soon it reappears in service, often to cause trouble for its former owner. Such machines are sold on small or no down-payments and long terms, and often to irresponsible persons who are able to quote ruinously competitive prices because of long hours of work and willingness to accept small compensation.

*Managing Director, New York Employing Printers' Association, Inc.; Member American Society Mechanical Engineers.

Humidity—Moisture In Atmosphere

By MILTON E. HANSON*

PART I

WE are paying a great deal of attention lately to the control of moisture present in the air. We find the right amount of moisture present has a very important effect upon many industrial processes.

The following is a simplified discussion of its nature and control.

We call it a humid day in summer when the air is not necessarily hot, but oppressive. The air already contains so much moisture we get little cooling effect from evaporation of moisture from our skin. In winter in some homes or stores we feel chilly even when the thermometer registers 72 deg. This is because the air contains so little moisture we get a rapid evaporation from our skin producing such a cooling effect as to cause some discomfort.

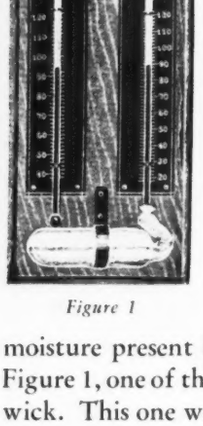


Figure 1

We measure the amount of moisture present by means of two like thermometers, Figure 1, one of the bulbs of which is covered with a wet wick. This one we call the wet bulb thermometer; the other we call the dry bulb thermometer. The rate of evaporation from the wet wick bears a direct relation to the amount of moisture present in the air. The faster the evaporation the cooler the wet bulb is kept, thus the difference in the reading of the two thermometers is a relative measure of the moisture present. We represent the moisture present in terms of *per cent relative humidity* defined as the percentage present to that the air at a constant dry bulb temperature could hold if completely saturated.

If we do not vary the amount or weight of moisture present but heat the air to a higher dry bulb thermometer reading the air expands and thus the relative percentage humidity decreases, the air becoming dryer. This is what happens when winter air seeps into a house, is heated becoming much dryer, much too dry ordinarily. If we cool the air, it shrinks, the relative humidity increases until the point of saturation is reached. This is called the *dew point*, 100 per cent relative humidity. If it is further cooled the air remains saturate and due to further shrinking in air volume moisture is condensed out in the form of dew or fog. If any of this free condensate is removed and then the air be reheated to its original temperature it is dryer than it was before.

The humidity chart, Figure 2, is drawn up in the simplest form, accurate enough for all practical purposes and in a manner to represent the subject graphically. The two thermometer readings are found at the left vertical margin. The dry bulb reading will be the greater unless the air is already 100 per cent saturate, under which conditions both thermometers read the same. They will read the same because as 100 per cent saturation is reached evaporation ceases. The relative humidity is found given in per cent along the bottom margin.

For example, the dry bulb thermometer reads 70 deg. and the wet 58 deg. Follow the dry bulb temperature line sloping downward to the right from the 70 deg. mark to a point directly opposite the 58 deg. mark horizontally. Directly under this point vertically we read the relative humidity, 48 per cent, as the bottom margin. From this same intersecting point again follow the dew point line sloping downward to the left and find it comes out at the left margin at 50 deg., the dew

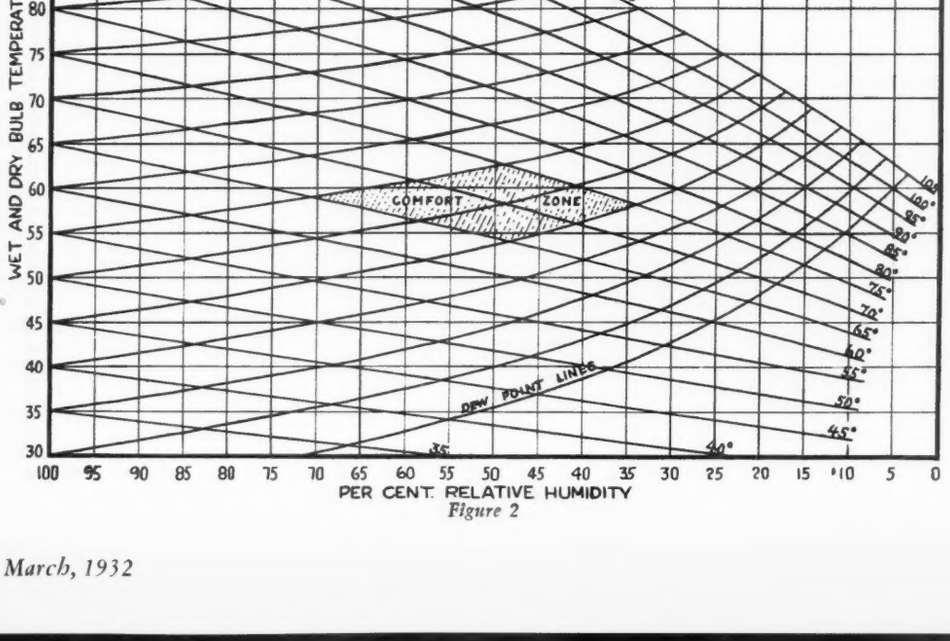


Figure 2

*Mechanical and Chemical Engineer, Collingswood, N. J. Member American Society Mechanical Engineers.

point. Note the intersecting point falls in the shaded area labeled the Comfort Zone. Points falling in this area are for thermometer readings indicating the most comfortable conditions for office, home or schoolroom. For factory conditions where people are more active the points of intersection of dry bulb lines and wet bulb lines should come somewhat below and directly under the shaded area, producing the relative humidity readings but at cooler temperatures, to be most comfortable.

If the wet bulb is very much lower than the dry bulb the point of intersection comes over to the right side of the chart, giving a low percentage relative humidity, meaning the air is dry. If there is little difference the percentage relative humidity is high and the air is laden with moisture.

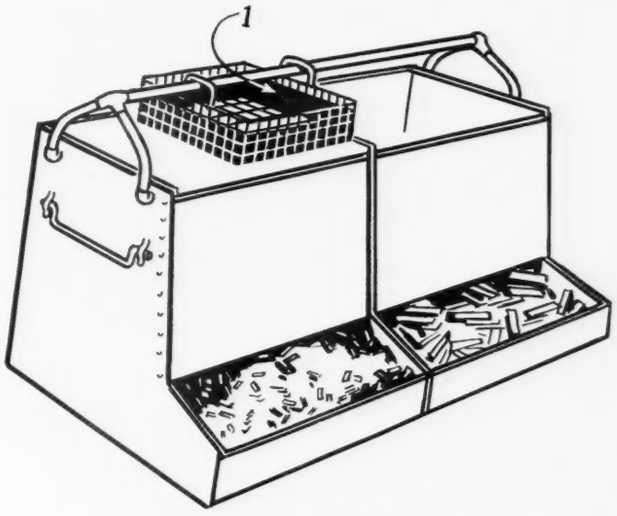
A dry air condition is not right for many industrial processes, for instance, spinning or weaving silk, wool and even cotton. These materials handle the best at relative humidities of 55 to 65 per cent and rayon or artificial silk at 65 to 75 per cent. In the commercial pressroom the relative humidity should be 55 to 65 per cent to assist in preventing static and other troubles. Due to heat given off from the machinery, dry bulb temperatures are usually not lower than 75 to 80 deg. If the dry bulb reads 80 deg. and we want to have a relative humidity of 60 per cent, what should the wet bulb thermometer read? Follow up on the 60 per cent R. H. vertical until the 80 deg. dry bulb curve is reached and horizontally opposite to the left margin we find the wet bulb thermometer reading exactly 70 deg.

If we hang up wet and dry bulb thermometers in the pressroom in the fall, winter or spring we will find the air very much dryer than 60 per cent R. H. unless there is escaping steam in the room or adequate mechanical devices for liberating moisture into the air. This is because the cold air outdoors, even if nearly saturate, when gaining entrance to the room is heated by one means or another to normal room temperature and thus when expanded becomes abnormally dry. Supposing out doors the dry bulb reading is 34 deg. and the wet bulb is 32 deg. We find the point of intersection gives a relative humidity of about 80 per cent. Now this air gets into the pressroom and is heated to 76 deg. Following from the point upward to the right parallel to the dew point lines and downward to the right from the 76 deg. point on the left margin parallel to the dry bulb temperature lines, we find a new point of intersection on the 17½ per cent R. H. vertical line and directly opposite a wet bulb reading of 53 deg. Obviously the air is very dry and we may expect breaks and static troubles. We must moisten the air to say 60 per cent R. H. From the last point of intersection on the chart on the 17½ per cent R. H. vertical, move upward to the left along the 76 deg. dry bulb temperature line, stopping at the 60 per cent R. H. vertical and directly opposite horizontally we find the wet bulb reading 66½ deg. Thus we find that if the room temperature is 75 to 80 deg. the wet bulb reading should always be kept about 10 deg. less to maintain about 60 per cent R. H. at all times. It is evident from the chart that if the air outdoors falls to 55 deg. we must commence to add moisture to the air in the room to maintain 55 to 65 per cent relative humidity.

(To be Continued)

Metal Separating Device

THE hot metal feeders used on composition monotypes in the plant of the Trade-Ad Composition Co., Cleveland, Ohio, are of such construction that it is not feasible to feed long strip material into the feeder crucible direct. The metal supply is obtained by putting type and short length leads and rules into the feeder hopper at the necessary intervals.



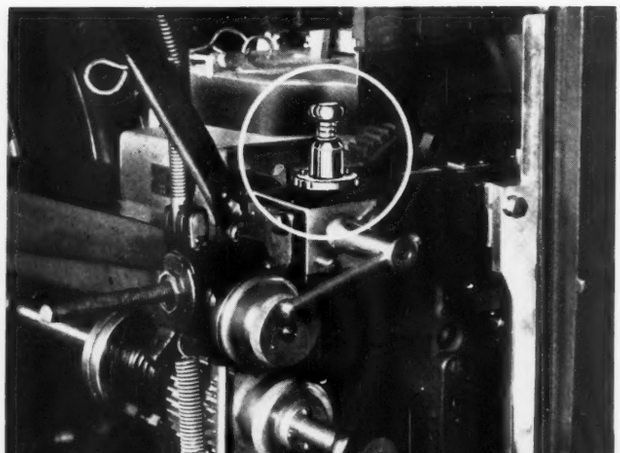
A means of separating type from strip material quickly has been devised by John Van Dellen, vice president of the Trade-Ad Composition Co. The device consists of two standard steel metal bins of 1800 lbs. capacity each as shown in the drawing. Extending across the top of both bins Mr. Van Dellen applied a pipe rail upon which is slidably suspended a dipping basket of standard pattern. The basket support is constructed of ½-in. iron pipe. The top piece is 5 ft. 4½ in. long and is held in position by two short pieces of pipe 16½ in. between centers and 15½ in. high from the elbows to the ½-in "Y"-elbow at the top. Floor flanges fastened to the end plates of the bin support the basket rail.

The dipping basket measures 6 in. x 19 in. x 19 in. The basket is lined with boards ⅞ in. x 3 in. high as indicated at *1* in the drawing. The board lining prevents leads and rules falling through the basket mesh while the type is being shaken into the type bin. After the type has been separated from the leads and rules, the basket is pushed over to the other bin and the basket tilted to permit the strip material to fall into the compartment below.

Intertype's New Quadding and Centering Device

By L. W. Willis*

To meet the ever-increasing demand for economical production of diversified line-composing machine composition, Intertype engineers have created a new automatic quadding and centering device which adds the following mechanical advantages to the Intertype machine: (1) Automatic and instant quadding of any length of line, without using spacing material; (2) Automatic centering of any length of line on any length of slug, without using spacing material, and (3) Automatic quadding or centering of a single character, word, or words with or without using spacebands.



Control Knob or Plunger which is positioned by the operator to determine the action of the Intertype Automatic Quadding and Centering Device

In connection with the above advantages, the machine functions normally in every way, that is, there is no interference with the regular casting of full lines at any time.

Within the white circle in the photograph (and mounted on the left side of the vise cap) is shown the operating control knob by means of which the operator determines how the quadding and centering device shall function. The control works as follows:

While the control is down the machine will center a single character, word, or words on any length of slug, without further attention.

While the control is up the machine will quad any lines set under full measure, without further attention.

When full lines are sent in, normal justification takes place with the control up.

Having set the control in the "up" or "quad" position, the operator's attention can be devoted entirely to copy and composition. He simply sends in the lines, short or full, as the case may be, without further attention. If it is desired to center a character, word or words, the operator simply presses down upon the control plunger.

The perspective drawing, inset *Fig. 1,* shows the vise jaw closing lever which is operated from the main cam shaft, also the jaw closing racks secured to the right and left-hand vise jaws, and the pinion which engages these racks and causes the two jaws to move together when centering a character, word or lines.

The delivery slide long finger no longer has to be set to the different measures by the operator as it is always left open at the full-measure position (30 or 42 ems) and the leading matrix in the line is supported against falling over by a light spring rail in the gate of the assembling elevator. Also, the long and short fingers are now designed so they can come together close enough to support and convey a single matrix.

For convenience in following a description of the operation of this device, the mechanism in *Figs. 2, 3, 4* and *5* is viewed from the inside or back of the vise cap.

QUADDING A LINE

Fig. 2 relates especially to quadding and shows the position of a matrix line as it would be when supported in the first elevator. The same line is shown between the vise jaws, after the right-hand jaw has been released through tripping of the jaw retaining latch by the first elevator. The jaw-closing lever has moved the right-hand jaw as indicated by the arrow, these parts having moved from the dotted to the full-line position.

It will be noted that the control knob on the vise cap is in the "up" position, where the pinion does not engage the jaw-closing racks. Therefore, the jaw-closing lever, which is linked to the right-hand jaw rack, closes only the right-hand jaw and the line is thus quadded out at this end.

Fig. 3 shows the same line as in *Fig. 2,* after the justification action of the machine has been completed and the right-hand jaw has locked against the line prior to casting a slug. The rise of the justification bar is limited by contact of the roller *A* with the cam face of the locking pawl actuating lever, which is constantly urged toward the left by a spring near the pivot bearing of the lever on the vise frame. The roller *A* swings this lever to the right and with it the jaw-locking pawl, pivoted on it at the top, until the pawl leaves its seat against the stop block *B* on the vise cap and engages the jaw closing rack as shown. On second justification, the justification bar is leveled up by a repositioning of the usual brace in the slot *C*. Between the first and second justification actions, when the roller *A* momentarily loses its contact with the cam face of the actuating lever, the lock retaining lever *D* engages the pin *E* on the actuating lever and prevents disengagement of the locking pawl from the rack.

The upward drive of the justification bar effects a tight locking of the jaws against the line, due to the locking pawl exerting a constant pull on the right-hand jaw during the casting operation. If spacebands were present in the line shown, they would be driven up only until the locking pawl became engaged with the rack.

After the cast, and as soon as the mold has moved away sufficiently to clear the characters on the slug from the line, a roller *F* on the usual vise-closing attachment trips the lever *D,* which in turn disengages the jaw locking pawl from the rack. The right-hand jaw is thereafter returned to normal or open position, the jaw closing lever being actuated reversely for this purpose.

*Patent and Research Engineer, Intertype Corporation, Brooklyn, N. Y.

CENTERING A LINE

Fig. 4 relates especially to centering and shows the same line illustrated in *Figs. 2* and *3*, held between the vise jaws, both of which have been moved together through equal distances as indicated by the arrows.

Here the control knob is in the "down" position where the pinion engages the jaw-closing racks. Therefore, when the first elevator trips the retaining latch, the pull of the jaw-closing lever is transmitted through the pinion and both jaws are caused to move through equal distances, thus filling in both ends of the line and locating it accurately at the center of the mold cavity. Regardless of the length of mold in use, the same centering action takes place, entirely automatically.

Beyond this action of the jaws which locates the line centrally before the mold cavity, the movements of the jaw-locking pawl and the functioning of parts *A, B, C, D, E, F,* and *G*, are the same as described above when quadding a line.

QUADDING AND CENTERING WITHOUT SPACEBANDS

Without using spacebands with the character, word or lines to be quadded or centered, the action of the device is just the same as if spacebands were present.

This is explained by the fact that the rise on the cam face of the locking pawl actuating lever is sufficient always to assure unseating of the locking pawl from the stop block *B*. The locking pawl will therefore always engage the jaw-closing rack as soon as the roller *A* moves the actuating lever to the right a few degrees (except when casting full justified lines).

CASTING REGULAR—FULL JUSTIFIED LINES

Fig. 5 shows a full line with spacebands, that is, a line which the operator would send in to be justified to full measure. The device is so designed that "loose" lines will not cast, just as would be the case on machines not having this equipment.

In order to regulate the "line spread" due to justification of the spacebands, an indicator is provided on the control which the operator can set to suit the requirements of the composition. The operator simply sets this new "line spread" indicator to the 1, 2 or 3-em position, whichever is equivalent to the maximum spread he would ordinarily allow for a certain length measure. As long as the lines are set with a sufficient number of spacebands to take up the spread indicated, they will be fully justified.

In *Fig. 5*, the right-hand vise jaw has not moved in far enough to allow the pawl *H* to clear the blocking pawl *J*, which is provided with steps to allow for 1, 2 or 3 ems line spread. Until the pivoted pawl *H* on the rack has moved clear of one or the other step, whichever setting is indicated by the scale on the control, the locking pawl will be blocked against swinging up into engagement with the rack and the line will justify.

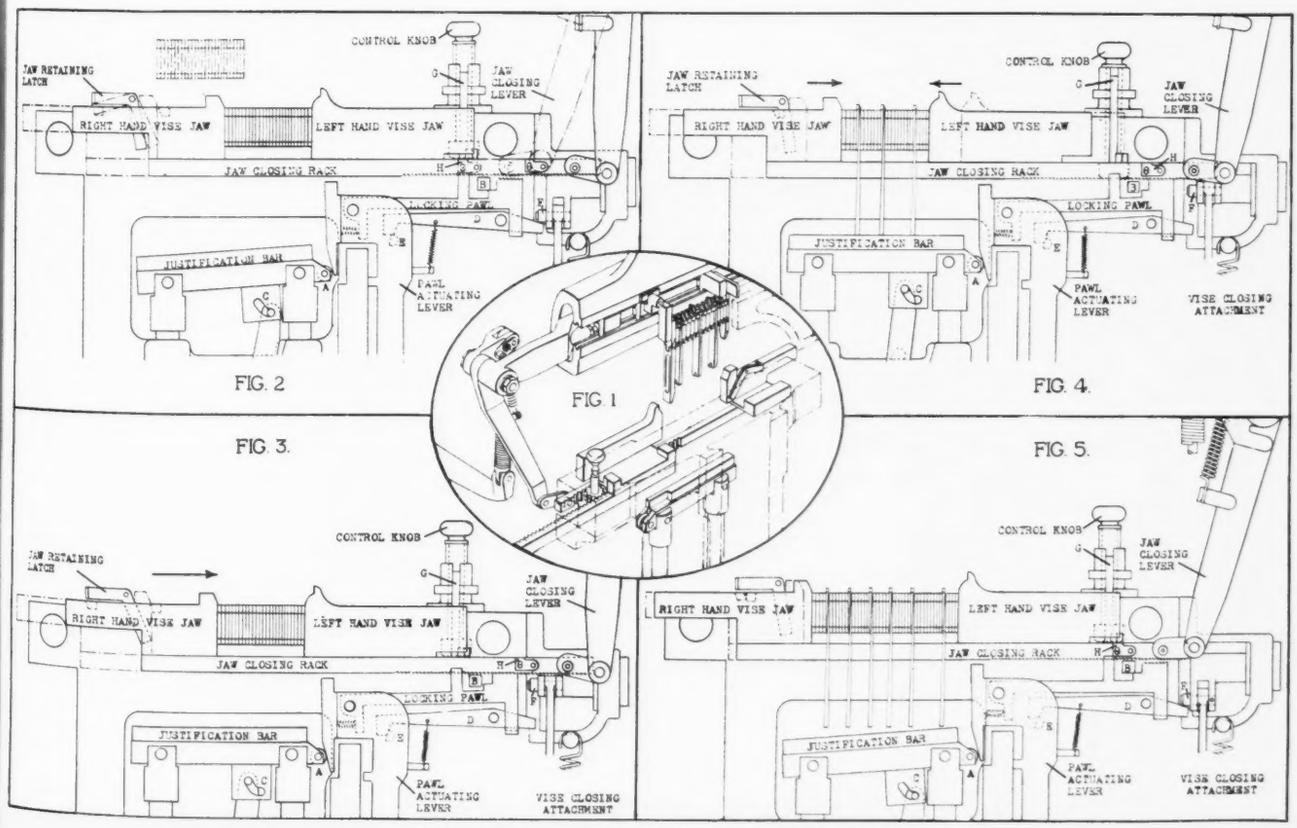
When the Control Knob is up, lines, with or without spacebands, which are set shorter than the indicated line spread limit will be automatically quadded.

When the Control Knob is down, any line containing a sufficient number of spacebands, and set within double the amount of spread indicated, will fully justify, while lines set shorter will automatically center.

When the Indicator is set at Zero, there can be no expansion of lines—therefore, any kind of a line sent in will be either quadded or centered, depending upon the up or down position of the control knob.

Machines equipped with this device may be speeded up considerably and still make the operator's work much easier. A portion of the time saved over the common method of hand quadding and centering will permit the operator to read his lines before sending them in, thereby reducing errors.

The operation of this device provides an additional safety factor against squirts, because the jaws are at all times in contact with the matrices when in front of the mold.



Various Views of Intertype's New Quadding and Centering Device, Which Are Explained in the Article.

Dry Mat Manipulation

By Dry Mat Bill

How many of you have heard, "Give me a good plate and I will give you a good printed paper?" Well, I guess you all have. Even the "front office" most frequently believes this to be true.

All right, let us furnish a good plate. The mould is now presumed to be positioned and dried ready for the casting box. As far as we can see there are no buckles, but remember this, no matter how carefully a mat has been scorched, a little moisture apparently remains. This is shown by the fact that allowance is made for the mat to creep in the casting box.

When, for some reason, the side gauges or tail pan prevent this creep it is just too bad. You will have a buckle which at this stage of the game is most often sad to contemplate. The fibres of the mat have set and it is very difficult to eliminate the buckle.

Some stereotypers resort to the use of glycerine, to soften the mat. If they do, they should be sure the mat is thoroughly scorched again or chilled plates will be the result. Glycerine has a tendency to cause chilled plates. It has been found that neatsfoot oil will serve the same purpose and with less trouble.

To prevent the possibility of this trouble in the first place be sure that there is proper clearance of the side gauges, ring gauge, and the fitting of the tail piece so as to prevent binding.

Another source of buckling experienced while casting is from wide bolsters. This condition may be remedied by breaking them down by rubbing with some smooth, hard surface such as a polished piece of broom handle or bottle.

The idea of placing a thin strip of underlay about one-fifth the area of the cut will prevent dishing of the long and narrow illustration. This permits it to come out nice and flat in casting.

The mat should be scorched hot just before it is placed in the casting box. Be sure it is properly seated before closing the box and, of course, be sure it does not bind anywhere. In operating the pump, discharge a full and steady stream of metal into the box.

In flat casting, a mat that will not lay flat to the box is bound to buckle in on each end. This is because the mat has no place to go but up since it is bound by the side gauges. This may be avoided by pasting strips for the bearers to rest upon. Allow a generous margin between the strips and mat, then when the cast is poured the mat will creep in the space provided between the mat and strip, covered by the gummed paper which will be the only thing to buckle.

The water cooling system or circulation of water in the casting box is a very important matter. A cold box and hot metal will honeycomb the casting. Frequently we find a "sugar-coated" or frosted appearance in the cast, usually along the bottom. This is caused by improper water circulation. The holes from poor water circulation are very fine and numerous.

Sometimes larger holes of almost the same appearance may develop anywhere in the cast. Usually this condition can be traced to the mat not resting firmly against the casting box or sometimes may be caused by a low cut in the mat.

Watch the water circulation in cold weather. Too cold water is apt to cause considerable trouble.

When this porous condition happens on the tail pan side, the trouble can be traced to a slab of metal running behind the tail piece.

Metal is the cause of some of the grief experienced in making plates. The metal should be clean and of the proper formula for the casting heat you expect to use.

When the plates show a dark, smudgy appearance, but even all over, look to the tin content. It is apt to be low. Uneven, dark and smudgy streaks can be attributed to dirty metal. To secure a clean, sharp surface on the plate, the metal must be cleaned periodically by agitating the metal at the bottom of the pot, which will bring the dross to the top.

A hot casting box and moderately hot metal (from 585 deg. to 650 deg.) will give more solid casts with the best printing surface.

The proper casting temperature of the metal will vary with the formula of the alloy.

Right here, I suppose, is about as good a time as any to give a short talk on stereotype metal—what it is or should be.

Stereotype metal, as perhaps you all know, is an alloy of lead, tin and antimony arranged in the proper proportions suitable for the particular purpose intended.

As you all know, lead is entirely too soft to use for stereotyping besides lacking in other properties so it is necessary to add other elements.

It was found that antimony gave both hardness and fluidity to lead—hard when cold and fluidity when hot.

Besides these valuable characteristics, antimony has that property of expanding just as solidification occurs, thus filling all the detail of the mould, then as it cools, it shrinks away, retaining a perfect reproduction.

Tin is used for that valuable property of increasing the fluidity of the alloy, thus permitting the casting to be done at much lower temperature than otherwise. Tin, however, *does not* reduce the melting point of the alloy as many people believe. Antimony is the element that lowers the melting point. Tin increases the fluidity when molten. Do not confuse the two properties.

Tin causes a much slower setting of the alloy so that too much tin will be found to be a detriment, especially

(Continued on page 30)

Latest Printing Equipment Mechanisms

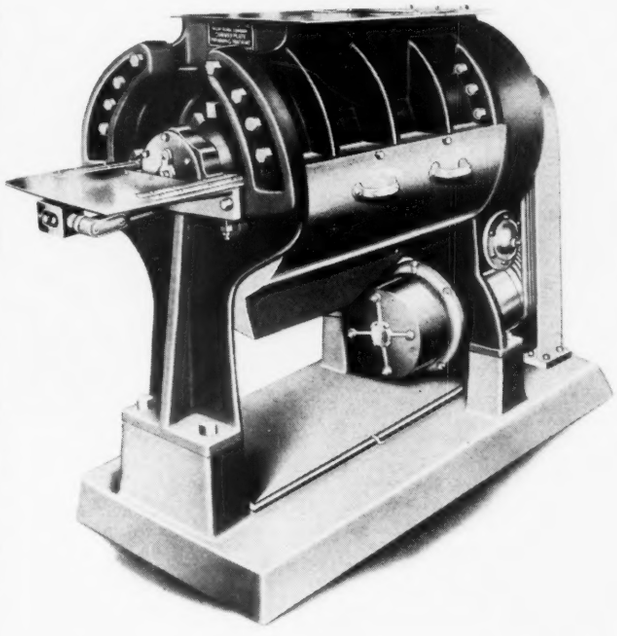
New Plate Thinning and Shaving Machine

R. Hoe & Co., Inc., 138th St. and East River, New York, N. Y., have put on the market a New Precision Curved Plate Thinning and Shaving Machine. This machine has been especially designed for use in newspaper and other plants where color printing is done from stereotype plates so as to reduce and shave the plates to the desired thickness. All bearings are of the anti-friction type. Gears and bearings are fully enclosed and run in grease. Steel pinions mesh with bronze gears. The worms are heat-treated and act upon bronze worm wheels. The machine is driven through pulleys and "V" shaped belts by a motor with a built-in brake.

The operation of the machine is as follows: The plate is passed into the machine with the straight edges down until it comes to rest against a stop. It is clamped securely and automatically after the machine has been started by a push button and upon completion of the operation, the plate is unlocked automatically and the machine stops. The finished plate is readily removed with the aid of an ejector.

The successive operations performed by the machine, all of which are automatic, are as follows:

First a wiper passes over the plate to remove any foreign matter, then a set of pressure rollers followed by high speed



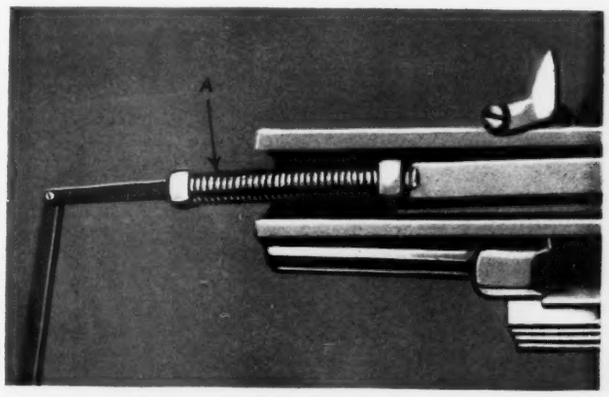
rotary milling cutters remove excess metal. A second wiper is then passed over the milled surface, followed by another set of pressure rollers and finally by a clean-cut shaving knife.

The machine removes the metal from the inside of the curved plate with rotary milling cutters extending the full length of the plate. The plate to be thinned is placed in the top of the machine, thus eliminating the accumulation of chips, which are directed through the chute underneath the arch and dropped into a bin. No cleaning of the arch is required.

The manufacturers state that newspaper plates 7/16 in. thick can be reduced to ¼ in. thickness with an accuracy of plus or minus 0.0005 in. in about forty seconds. The plates do not open up, but, on the contrary, close in slightly after they are finished, which causes them to hug the press cylinders snugly.

Cushion Spring for Distributor Shifter Slide

The spring, A, cushions the impact of matrices against the distributor box rails during the transfer from the second elevator bar. By absorbing shock to matrices, the Cushion Spring prevents wear on matrices and distributor box rails.



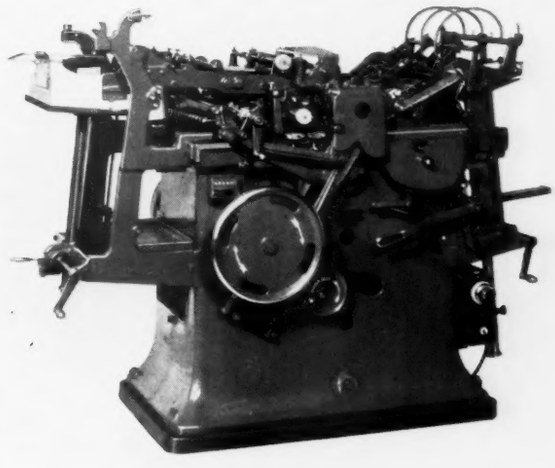
Applicable to any Linotype. B-635 Distributor Shifter Lever Link, assembled, for 30-em machines. B-639 Distributor Shifter Lever Link, assembled, 42-em machines. B-636 Distributor Shifter Lever Link Screw, Left Hand. Further particulars may be obtained from the Mergenthaler Linotype Co., 29 Ryerson St., Brooklyn, N. Y., or any of its agencies.

New Small Automatic Cylinder Press

The Chandler & Price Co., Cleveland, Ohio, is making announcement of a new small automatic cylinder press which it is claimed will handle 70 per cent of the run-of-the-hook in the average job printing establishment, at speeds up to 4800 impressions per hour.

The press has been designed for a chase 11 in. x 14 in. to accommodate sheet sizes from 3¼ in. x 5½ in. to 11 in. x 15 in. and stocks ranging from onion skin to four-ply cardboard.

The manufacturers also claim that the range of this press is not limited to ordinary job work, but is also well suited to



halftone, close register and color printing, and is adaptable to short as well as long runs due to complete accessibility for form changes and makeready. Exceptional distribution is made possible by two form rollers, two large diameter metal vibrators, one small auxiliary metal vibrator, two distributor

(Continued on page 36)

February Patents

Printed Copies of Patents are furnished by the Patent Office at 10 cents each. These may be obtained by addressing the Commissioner of Patents, Washington, D. C.

1,843,118. SHEET FEEDING APPARATUS. Ernest J. Brasseur, Chicago, Ill., assignor to A. B. Dick Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 3, 1928. Serial No. 309,941. 20 claims. (Cl. 271—25.)

1. Sheet feeding apparatus including in combination, a table support for a sheet pile, a channel formed in said table support, an element slidably retained in said channel, a plate mounted on said slidable element and adapted to be moved into and out of abutment against one end of the sheet pile, and a latch device for locking said slidable element against movement on said table support.

1,843,142. LATE NEWS PRINTING MECHANISM. Cecil George Quick, Eltham, and Walter William Forbes Denne, New Malden, England, assignors to R. Hoe & Co., Inc., New York, N. Y., a Corporation of New York. Filed Jan. 6, 1930, Serial No. 418,897, and in Great Britain July 3, 1929. 5 Claims. (Cl. 101—221.)

1. In a late news device for a rotary web printing machine, a pair of side frames, form holders adjustable on a shaft having bearings supported by the frames, a cross bar in substantially vertical alignment with the shaft, and a plurality of pairs of subframes adjustably attached to the cross bar and adapted to support inking mechanisms in operative relation to the form holders.

1,843,254. AUTOMATIC CYLINDER TRIP FOR PRINTING PRESSES. Edward O. Vandercook, David D. Vandercook, and Frederick R. Vandercook, Evanston, Ill., assignors to Vandercook and Sons Chicago, Ill., a Copartnership composed of Robert O., Edward O., David D., and Frederick R. Vandercook. Filed June 1, 1931. Serial No. 541,209. 8 Claims. (Cl. 101—269.)

1. In a printing press, the combination of the press bed, a printing carriage reciprocable thereon, a printing cylinder and supports on said carriage therefor, a cam bar extending transversely on said carriage and guided thereby, cam connections between said bar and said cylinder supports adapted upon longitudinal shift of said bar to raise or lower said supports and the cylinder supported thereby, and means controlling the shifting of said cam bar.

1,843,255. PROOF PRESS. Edward O. Vandercook, David D. Vandercook, and Frederick R. Vandercook, Evanston, Ill., assignors to Vandercook & Sons, Chicago, Ill., a Corporation of Illinois. Filed June 6, 1931. Serial No. 542,499. 18 Claims. (Cl. 101—270.)

1. In a printing press, the combination of a printing carriage supporting a printing cylinder, an inking carriage supporting inking rollers, a track for said carriages defining an orbit of travel therefor, a press bed parallel with a section of said track, propulsion means for propelling said carriages through said orbit for successive engagement of the inking rollers and the printing cylinder with a setup on the press bed, an ink drum concentric with a part of said orbit for engagement therewith of the inking rollers for supplying ink thereto, a driving source, a driving connection between said source and said propulsion means, and a driving connection between said source and ink drum.

1,843,436. PAPER REPLENISHING DEVICE FOR WEB PRESSES. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a Corporation of Virginia. Filed Mar. 20, 1922. Serial No. 545,225. Renewed Dec. 8, 1931. 49 Claims. (Cl. 242—58.)

6. In a web replenishing device for a printing press, the combination of means for supporting an old roll and a new roll, means for guiding the web from the old roll adjacent to the new roll but out of contact therewith when the old roll is of its maximum size, the new roll being located in position to normally touch the web when the old roll is nearly exhausted, a guide for guiding the web to keep it out of contact with the new roll, and automatic means for removing said guide out of the way when it is desired to attach the new roll to the old web, so as to let the web touch the new roll.

37. In a roll changer for printing presses, a fresh roll and an expiring roll, and means for changing the web feed from the expiring roll to the fresh roll, means for starting and driving the fresh roll, and separate and independent means for stopping the roll as it expires.

43. In an apparatus of the character described, the combination of a rotatable magazine reel adapted to carry a plurality of rolls of paper, a normally inactive but press driven means adapted to rotate a fresh roll of paper and bring it to web speed and means for rotating the reel to effect contact of the fresh roll with the traveling web of the expiring roll.

1,843,441. PRINTING PRESS. John A. Boyce, Chicago, Ill., assignor to The Goss Printing Press Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 22, 1929. Serial No. 349,146. 26 Claims. (Cl. 270—7.)

1. The combination of printing, associating, cutting, inserting, folding and collecting devices, comprising a plurality of opposite sets of main four page wide perfecting mechanisms, with columns disposed circumferential to the plate cylinders, two pairs of formers in intermediate relation to the two opposite sets of perfecting mechanisms, two sets of two page wide supplement perfecting units back of said formers, one of said supplement perfecting units adapted to run at half speed, and the other supplement set adapted to run at full speed, two single width half speed supplement cutting and inserting devices in line with the two inside formers, two sets of supplement angle bars cooperating with the two supplement perfecting units, two sets of main web turning devices cooperating with said two pairs of formers, and folding and collecting devices below the formers, substantially as described.

1,843,485. POWER-OPERATED TAIL FEEDING DEVICE. John A. Isbell, Plainfield, N. J., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a Corporation of Virginia. Filed Feb. 24, 1927. Serial No. 170,459. Renewed June 17, 1931. 3 Claims. (Cl. 22—3.)

1. In a stereotype plate casting machine, the combination with a saw adapted to cut the tail from a plate and a shaft, of a melting pot and pump, means operated by said shaft for operating the pump, a chute for receiving the tails cut by said saw, a conveyor in said chute for engaging the tails therein and moving them positively and uniformly into the pot, and means operated by said shaft for driving the chain conveyor.

1,843,489. MATRIX ROASTER. Oscar Charles Roesen, Brooklyn, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a Corporation of Virginia. Filed Sept. 2, 1926. Serial No. 133,161. Renewed June 17, 1931. 4 Claims. (Cl. 34—32.)

1. A matrix roaster comprising a drum rotatable on a vertical central axis and having a series of curved pockets, each extending from a point near the center to a point near the circumference adapted to receive matrices therein standing on edge and to hold the matrices in curved formation, and means for applying heat to the bottom of the drum as it rotates.

1,843,491. PNEUMATIC METAL PUMP. Isidor Tornberg, Plainfield, N. J., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a Corporation of Virginia. Filed Apr. 20, 1926. Serial No. 103,198. Renewed June 17, 1931. 5 Claims. (Cl. 22—70.)

1. The combination with a casting mold, means for operating it, and a pneumatic pump for introducing metal into the mold, of means connected with said mold operating means for compressing air and introducing it into the pump intermittently throughout the time of operation of said operating means, and means for disconnecting the mold from the operating means without stopping the air compressor.

1,843,492. WEB SPLICING DEVICE. Isidor Tornberg, Plainfield, N. J., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a Corporation of Virginia. Filed July 6, 1927. Serial No. 803,721. Renewed Sept. 17, 1931. 5 Claims. (Cl. 242—58.)

1. In a web splicing device, the combination with a reel for supporting the running and fresh web rolls, of means for rotating the fresh web roll up to web speed, and means for automatically retarding the speed of the said rotating means when the roll is turned.

1,843,728. PHOTO-ELECTRIC TUBE. Harry F. Mesick, Jr., Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Sept. 27, 1928. Serial No. 308,715. 3 Claims. (Cl. 250—27.5.)

1. In combination, a light-sensitive device comprising a receptacle, a pair of electrodes mounted therein, one of said electrodes being capable of emitting electrons under the influence of light and a metal member mounted in said receptacle and coated with finely divided carbon.

1,843,872. PROCESS OF MAKING PRINTING PLATES. Rudolph A. Glaser, Cleveland, Ohio, assignor to Postergraph, Inc., Cleveland, Ohio, a Corporation of Ohio. Filed June 13, 1929. Serial No. 370,628. 27 Claims. (Cl. 95—5.4.)

1. The method of making lithographic printing plates photographically which consists in projecting a suitable photographic image upon the sensitized surface of a printing plate by concentrating the actinic rays of a beam of light of high intensity selected from the crater of a rotating arc through a suitable photographic negative and through a projecting lens directly upon said sensitized surface of said plate, and developing the image thus produced upon said plate to receive ink.

1,844,075. PRINTING PRESS. Kenneth P. Rolston, Pittsburgh, Pa., assignor to Exhibitors Program Co., Pittsburgh, Pa., a Corporation of Pennsylvania. Filed Apr. 24, 1930. Serial No. 446,861. 9 Claims. (Cl. 101—204.)

1. In a printing machine, the combination with an ink-distributing apparatus, an ink-transfer roll, and machine-actuating mechanism of a plurality of in-fountains for supplying ink to the transfer roll, a rotatable support for the fountains, means for maintaining the fountains horizontal as the support is rotated, means for moving the support and the fountains into and out of operative relation with the transfer roll and the actuating mechanism, and means for selectively positioning a desired fountain in operative position.

1,844,486. PASTER. Lesley R. Tufts, East Cleveland, Ohio, assignor to The Cleveland Folding Machine Company, Cleveland, Ohio, a Corporation of Ohio. Filed June 28, 1928. Serial No. 288,901. 6 Claims. (Cl. 91—50.)

1. A paster for use in paper handling machines, comprising a paste well, said well having a compartment in the bottom thereof adapted to receive paste from said well, mechanically driven means for assisting the flow of paste into said compartment, and a rotating disc mounted outside of the well to extend into said compartment through a slot in the well.

1,844,820. MACHINE FOR CUTTING TYPE SPACERS. Walter W. Morey, East Orange, N. J. Filed Sept. 20, 1927. Serial No. 220,766. Renewed Dec. 18, 1931. 5 Claims. (Cl. 271—2.4.)

1. A feeding mechanism for type spacer cutting machines, comprising pressure and feed rollers, and means for intermittently turning the feed roller including a ratchet wheel operatively connected with the feed roller, an oscillatory arm having a ratchet pawl engageable with the ratchet wheel upon swinging movement of the arm in one direction and means for oscillating said arm, the means for oscillating said arm comprising a crank, a reciprocatory rod connected with the crank, a bearing element pivotally carried by the free end of the arm through which the rod is slidable, an abutment in one end of the rod for swinging the arm in one direction, and a spring surrounding said rod bearing against the bearing element and the opposite end of the rod for swinging the arm in the opposite direction and permitting of a further movement of the rod when the arm is at rest.

1,845,232. HYDRAULIC PRINTING AND STAMPING PRESS. Hermann Brandenburg, Berlin, Germany, assignor to Josef Gruenberg and F. A. Scheu Gesellschaft mit beschrankter Haftung, Berlin, Germany. Filed Sept. 24, 1929. Serial No. 394,870, and in Germany Jan. 10, 1929. 3 Claims. (Cl. 138—17.)

1. A printing and stamping press, comprising, in combination, a frame and a pressing cylinder therein, this cylinder having two differently large chambers adapted to receive liquid under pressure; a casing surrounding said cylinder and forming together with a storing space for liquid which is not yet under pressure; a pump connected with said storing space and said chambers; a piston in said cylinder and a pressing table carried by said piston, passages, of which one communicates with the

(Continued on page 34)

TRADE LINOTYPE MARK

ALTERNATIVE CHARACTERS

that add fresh sparkle to

LINOTYPE METRO FAMILY

Add new interest and fresh sparkle to your Linotype Metro Family by substituting several cap and lower case characters that give the face a substantially different appearance.

These characters are available in all the four weights of all sizes from 6 to 36 point. Their use will convert Metro into Metro No. 2. They may be ordered as sorts for Metro fonts now in use or will be supplied with new fonts if Metro No. 2 is specified in the order.

◆

MERGENTHALER LINOTYPE COMPANY, BROOKLYN, NEW YORK

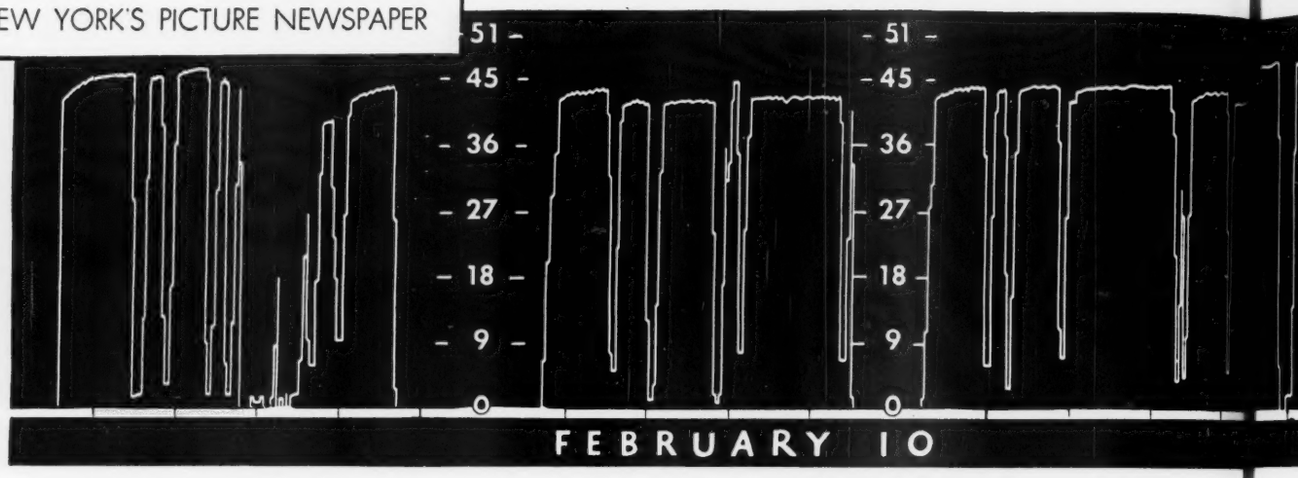
San Francisco, Chicago, New Orleans · Canadian Linotype, Limited, Toronto, Canada · Representatives in the Principal Cities of the World

GOSS

HEAVY DU
PRESS
MAINTAI

Simplified chart showing speeds maintained by the Goss High Speed Heavy Duty Press recently installed in the Manhattan plant of

THE NEWS
NEW YORK'S PICTURE NEWSPAPER



Figures show speed in thousands per hour.

● The largest daily circulation in America — over a million — is printed on Goss Presses in the two publishing plants of The New York News. Recently this great tabloid newspaper added the Goss High Speed Heavy Duty Press — six units and a pair of folders — to its present Goss equipment of 73 High Speed Low Designed Units and 19 pairs of folders.

The installation of the Goss High Speed Heavy Duty Press was successful in every respect. The press did all that was claimed for it. The buyer was thoroughly satisfied.

The simplified charts and the letter from Mr. J. W. Barnhart show how high speeds were steadily maintained — average net productions of 32,562 per hour, 35,240 per hour and 30,763 per hour on February 9, 10 and 11.

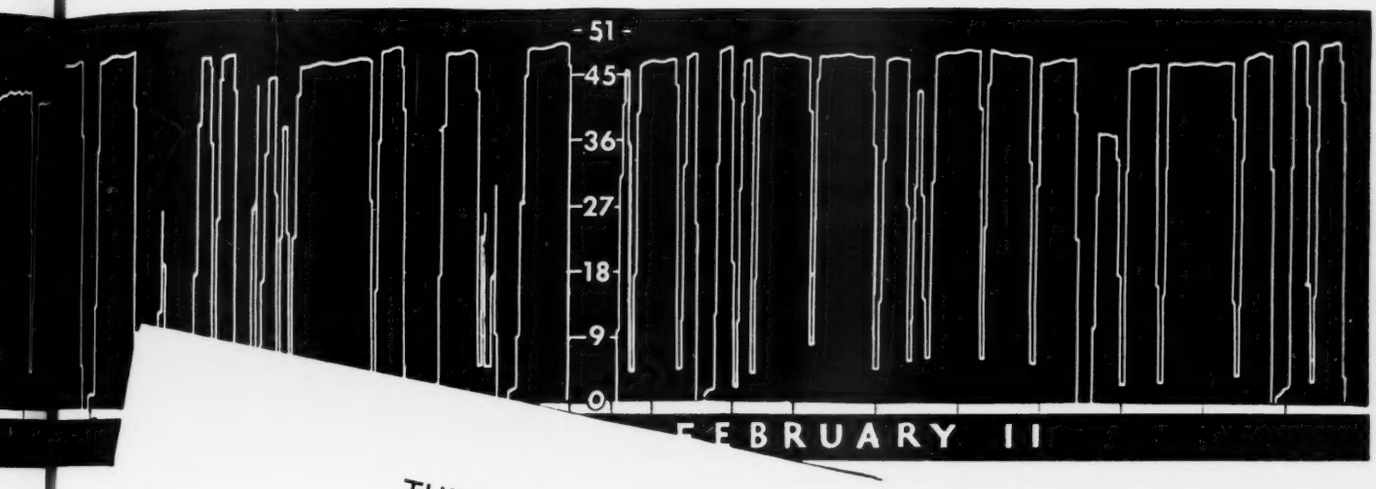
Such high net production is an achievement. A tabloid paper requires difficult cross-associate runs. This performance proves the superiority of the Goss High Speed Heavy Duty Press.

If you wish to verify the remarkable performance of this press, write to Mr. J. W. Barnhart, Business Manager, or Mr. E. J. Duffy, Mech. Sup't., The New York News, 220 East 42nd Street, New York City.

GOSS — STRAIGHT LINE — GOSS HIGH SPEED

THE GOSS PRINTING PRESS COMPANY · CHICAGO, ILLINOIS
NEW YORK OFFICE: 220 EAST FORTY-SECOND ST. · SAN FRANCISCO OFFICE: 707 CALL BLDG.
THE GOSS PRINTING PRESS COMPANY OF ENGLAND, LTD., LONDON

igh Net Production



THE NEWS
NEW YORK'S PICTURE NEWSPAPER
220 EAST FORTY SECOND STREET
NEW YORK

J. W. BARNHART
BUSINESS MANAGER

February 11, 1932.

The Goss Printing Press Co.,
1535 So. Paulina Street,
Chicago, Ill.

Gentlemen:

We are enclosing our check for fifty per cent. of the price for our new 6-unit Goss high-speed press, which has been running every night on our regular editions in our Manhattan plant for the past thirty days.

On Tuesday, February 9th, this press printed 107,998 52-page papers in 3 hours 19 minutes, an average of 32,562 per hour.

On Wednesday, February 10th, it printed 59,321 48-page papers in 1 hour 41 minutes, an average of 35,240 per hour.

On Thursday, February 11th, it printed 33,148 72-page and 90,931 56-page papers in 4 hours 2 minutes, an average of 30,763 per hour.

At actual running speeds of 375 to 400 r.p.m. (equivalent to 45,000 to 48,000 papers per hour) the press operates smoothly, and the quality of printing is just as good as on the old presses at 200 to 250 r.p.m.

We are very well pleased with the operation of this press, which has fulfilled your guarantees in every respect.

Very truly yours,

NEWS SYNDICATE CO., INC.

J. W. Barnhart

J. W. Barnhart
Business Manager.

Inc.

• Read this letter from Mr. J. W. Barnhart, Business Manager of The New York News. It speaks for itself.

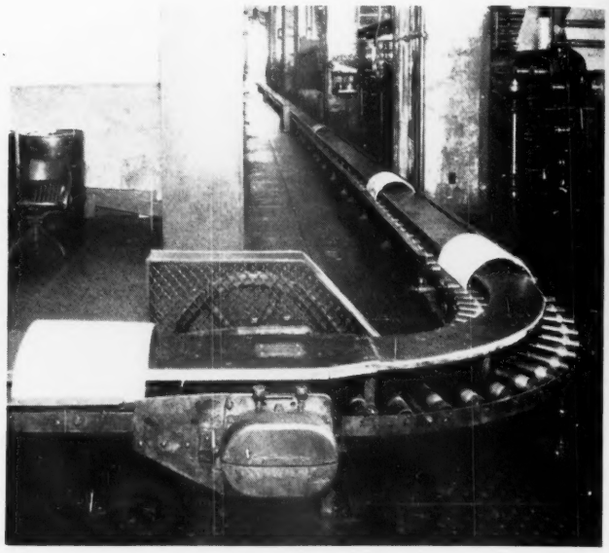
Conveyor System in N.Y. World-Telegram

By C. R. Lee, Jr.*

When stereotype plates pass from the cooling unit on each shaver in the stereotype department of the New York *World-Telegram*, they deliver onto a roller gravity conveyor which is pitched sufficiently to carry them to one of four stereotype plate drops. Each of the stereotype plate drops is made up of a car suspended by a cable to which is attached a counterweight. This counterweight is located in a 4 in. diameter brass tube cylinder which is closed at top and bottom so that the cylinder is air-tight, with the exception of air vents which are located at both the top and bottom of the cylinder. In most installations the car is counterbalanced by a counterweight so that when a plate is delivered to the car the car will drop to the lower level by means of the extra weight of the plate, the counterweight being carried to the upper position. As the car nears its destination the air pocket in the cylinder between the counterweight and the top of the cylinder retards the speed so that the car settles in place gradually.

In this particular installation high pressure air has been connected to a position at both the top and the lower points on the cylinder so that a plate upon entering the car will energize, by means of a circuit-maker, an electric solenoid which will open a valve in the high pressure air line, permitting high

(Continued on page 31)



View Showing Lamson Stereotype Plate Conveyor System Installation in Chicago Tribune Pressroom.

*District Manager, the Lamson Company, Inc., New York, N. Y.

SATISFIED WITH CERTIFIED

CERTIFIED DRY MATS

THE "ACE"* IS THE QUALITY DRY MAT

In describing the working of the Certified "Ace" this is how a stereotyper expressed himself:

"The mat sure worked beautifully, not a sign of a fracture, and no oil or chalk, just mold, pack and scorch and right into the Automatic."

The "Ace" is working out just as satisfactorily in many other plants, and we are confident that it would meet with your approval, too.

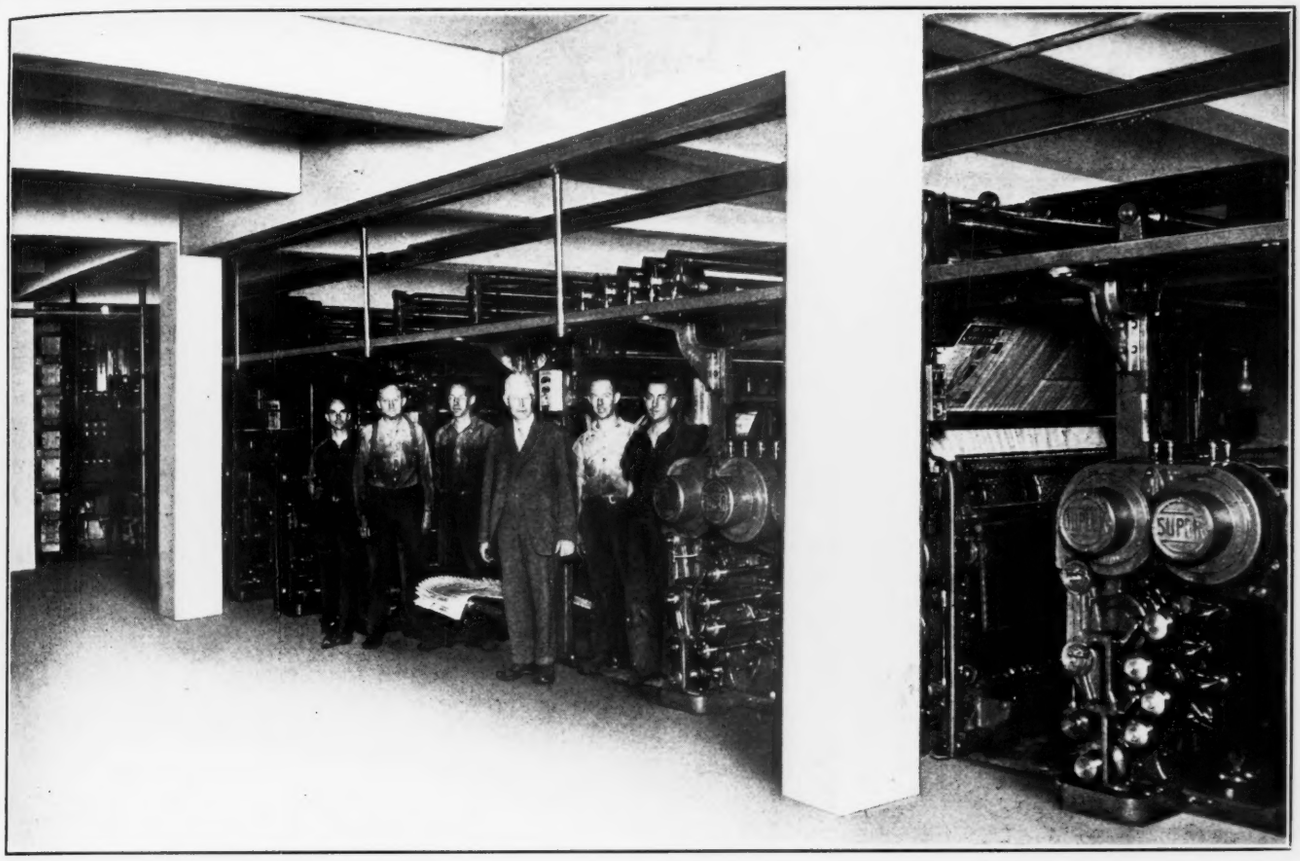
While the Certified "Ace" is the world's most expensive mat to make, yet it doesn't cost any more.

We will gladly send you some samples so that you can put the "Ace" to work in your own foundry and be your own judge. Just say the word.

CERTIFIED DRY MAT CORPORATION
338 Madison Avenue « » New York, N. Y.

For dependable stereotyping—use Certified Dry Mats
Made in U. S. A.

* Trade-mark registered United States Patent Office



A ROLLER COMBINATION

When the Asbury Park Press purchased their new Duplex Metropolitan press, the proprietor, Mr. J. Lyle Kinmouth, asked us for an unbiased opinion as to the roller equipment for this press. Our suggestion was Star rubber rollers for Forms, Duplex non-meltable composition rollers for Distributors, and Duplex non-meltable composition fabric covered rollers for Fountains. This suggestion was accepted in its entirety.

The new press, so equipped, has been in daily operation since August, 1930, and to the present time the rubber rollers have not been reground nor the composition rollers recast. So far the initial expenditure for rollers for this press has been the only expenditure, although a year and seven months have elapsed. The combination of rubber and composition rollers effected a saving of THIRTY PER CENT on the cost of a complete equipment of rubber rollers, with equally lasting and satisfactory results.

BEFORE ORDERING ROLLERS, WRITE FOR OUR BOOK ON ROLLERS. WE MANUFACTURE EVERY TYPE OF ROLLER IN USE TODAY, AND CAN SAVE MONEY FOR YOU.

BINGHAM BROTHERS COMPANY

MACHINE-CAST PRINTERS' ROLLERS — BRO. — ESTABLISHED 1849

Founded 1849

NEW YORK, 406 Pearl Street
PHILADELPHIA, 521 Cherry St.

ROLLER MAKERS

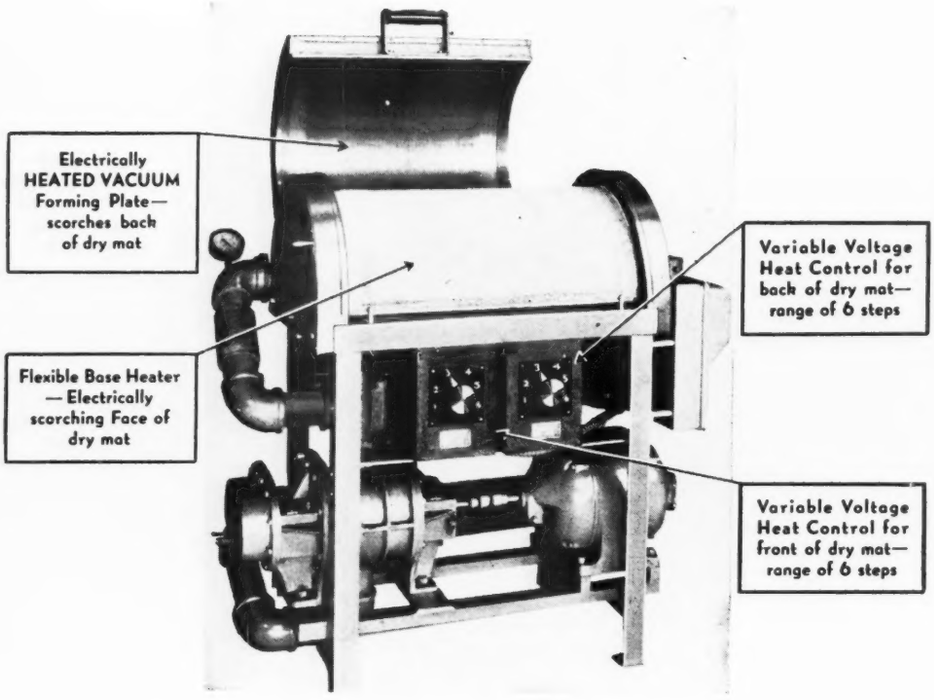
ROCHESTER, 980 Hudson Ave.
BALTIMORE, 131 Colvin Street

Member
N.A.P.R.M.
Incorporated 1918

March, 1932

ANNOUNCING THE NEW STA

AUTOMATIC MACHINE FOR VACUUM FORMING A CORO
SUBSTANTIAL SAVINGS IN DRY MAT PREPARATION—*STARTLI* RESUL
WITH EVEN ALL OVER CASTING SURFACE, AND WITH *ASTONISHI* PEED


Electrically HEATED VACUUM Forming Plate—scorches back of dry mat
Flexible Base Heater—Electrically scorching Face of dry mat
Variable Voltage Heat Control for back of dry mat—range of 6 steps
Variable Voltage Heat Control for front of dry mat—range of 6 steps

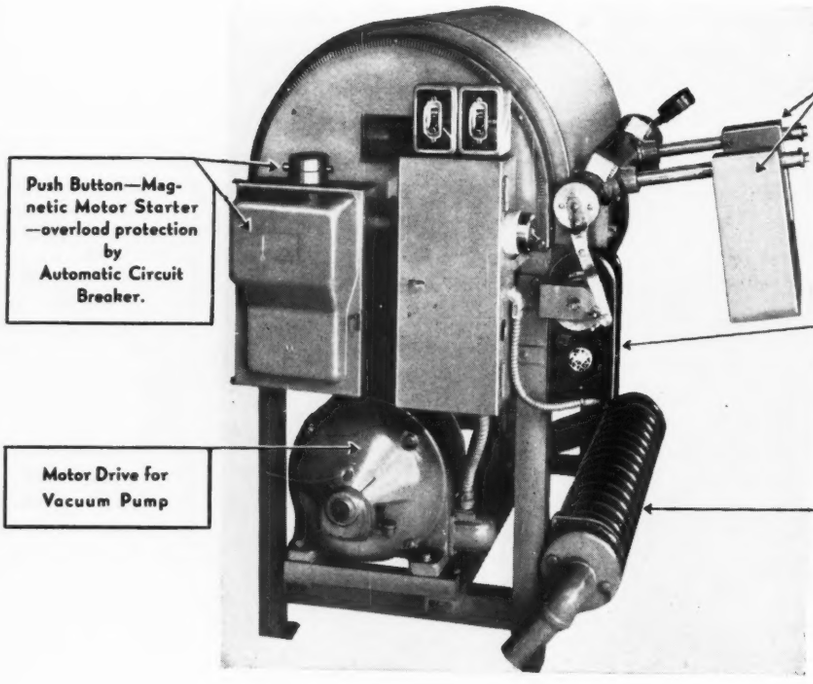
1

The Autoformer first draws a dry mat to the electrically heated vacuum plate.

Holds the dry mat from the back, evenly all over, against the curved and precision machined surface.

Preventing mat face warpages while being scorched on front and back simultaneously.

Producing synchronous shrinkage and rapid removal of conditioning moisture.


Push Button—Magnetic Motor Starter—overload protection by Automatic Circuit Breaker.
Compensated Counterweights for balancing and opening vacuum chamber—smooth, certain action.
Automatic—Electric Timer—adjustable in seconds. Positive timing, for dry mats of any manufacture.
Motor Drive for Vacuum Pump
Vacuum Pump Silencer—assuring quiet operation.

2

When the vacuum chamber is closed against the base heater.

It automatically latches.

Sets into motion the automatic electric timing device.

Adjustable for timing periods, suitable for dry mats of any manufacture.

For variable moisture content.

Required vacuum pull is instantly adjustable by the vacuum regulator valve.

SOUTHWEST DIVISION
703 BENDIX BUILDING
LOS ANGELES

STA-HI NEWSPAPE UPI
Oregonian Building

STA-HI AUTOFORMER

CORCHING DRY MATS. EFFECTING
ESULTS IN FORMED AND SCORCHED—*MADE READY* DRY MATS,
PEED OF PRODUCTION.

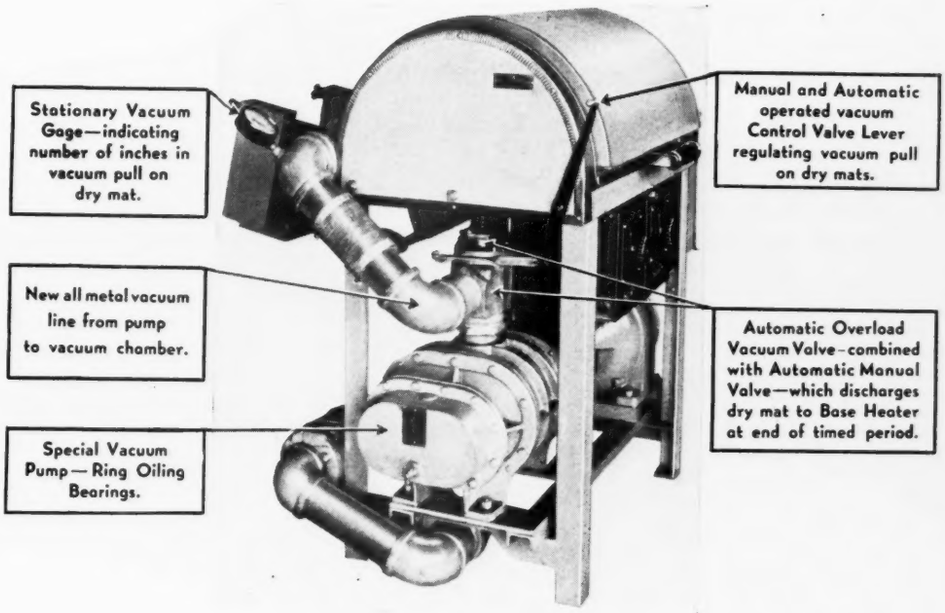
3

The Autoformer is provided with a very skillfully built, combined automatic vacuum overload and regulating valve.

By which vacuum ranges can be obtained to suit the required forming pull on any make of dry mat.

Operates automatically to release any excess vacuum, beyond any pre-determined setting.

At the end of time period, the regulating vacuum valve is automatically closed, cutting off vacuum supply.


Stationary Vacuum Gage—indicating number of inches in vacuum pull on dry mat.
Manual and Automatic operated vacuum Control Valve Lever regulating vacuum pull on dry mats.
New all metal vacuum line from pump to vacuum chamber.
Automatic Overload Vacuum Valve—combined with Automatic Manual Valve—which discharges dry mat to Base Heater at end of timed period.
Special Vacuum Pump—Ring Oiling Bearings.

4

The automatic timer releases the vacuum chamber.

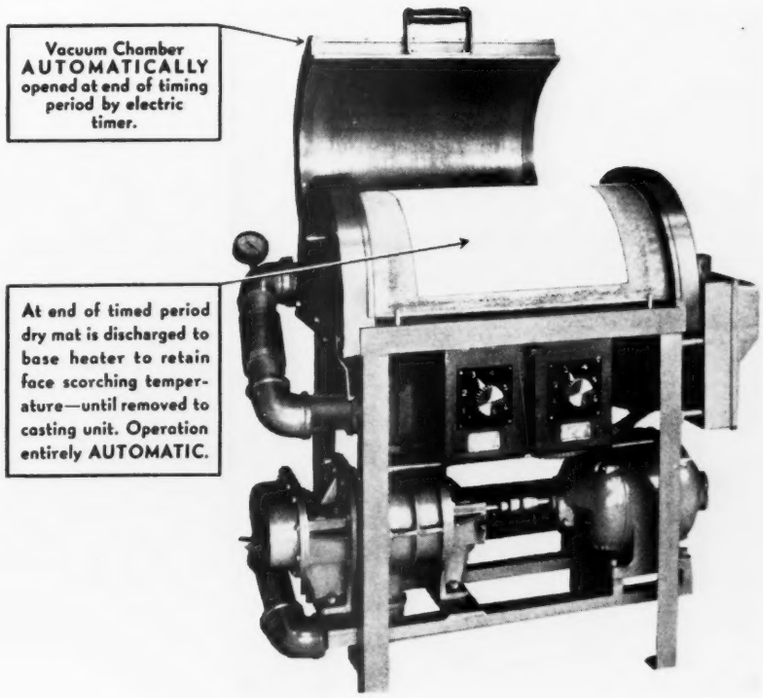
Which opens by the action of compensating and balancing counterweights.

The "formed and scorched" dry mat is placed on the base heater, maintaining the proper casting temperature.

Until removed by the operator direct to the casting units.

Producing printing plates with an even all over—made ready—printing contour—which in turn, produces QUALITY PRINTING PLATES.

The Autoformer places dry mat preparation on an automatic basis, insuring "formed and scorched" mats, free from face imperfections and definitely effecting a saving in time and money.


Vacuum Chamber AUTOMATICALLY opened at end of timing period by electric timer.
At end of timed period dry mat is discharged to base heater to retain face scorching temperature—until removed to casting unit. Operation entirely AUTOMATIC.

UPPLY COMPANY INC.
Portland, Oregon

General Agents
GOSS PRINTING PRESS COMPANY
CHICAGO, ILL.

Silvertone—New Kind of Stereotype Matrix

By A. B. BRADIE*

DEVELOPMENT of the stereotyping process in connection with fine printing has been neglected in the United States. In Europe, however, much energy has been expended in perfecting stereotyping methods. Today fully 90% of all the printing in Europe where duplicate plates are used is done from stereotypes.

Mechanical men from this country have been making yearly pilgrimages to European plants to study duplicate plate-making methods, to learn why stereotypes can be used for the finest printing work and why we have not been able to do likewise.

Invariably these engineers and commissions have reported that the methods used abroad would not be appropriate or feasible here. Secret formulas and hidden details of operation have made the various processes one-man affairs. Very often these formulas are the property of the overseer in charge of the foundry and do not belong to the employer. Foundries have been air conditioned and temperature and humidity have been accurately and carefully controlled. The opening of a window or door in the stereotype foundry has meant the spoilage of plates and matrices. *The one big element of time, so important here, doesn't appear to mean a thing over there.*

During the past seven years a new process of duplicate plate making has been in the process of development, and is now established on a commercial scale. Laboratory research and practical experiment by chemist, metallurgist and stereotyper have finally ironed out all the wrinkles.

In the Silvertone Process the inventors borrowed from existing stereotyping and electrotyping methods long in use, and have been able to combine them into a new technique, which at the same time is simple and practicable. This process provides for the production of duplicate plates with the speed, economy and facility of the stereotype combined with the fine printing qualities of the good electrotype. Plates so made are known as "Silvertypes."

The Silvertone itself is a special paper mache base, chemically treated, on which have been filmed and placed several different layers of metallic emulsions. The face is smooth to such a degree that the original plate to be reproduced, no matter how fine the screen, is not affected by the grain of the texture or the paper mache base. In fact, the sum total of metallic films is of such a thickness that the impression made in the Silvertone is in the film and the special paper mache base acts only as a vehicle or carrier for the films.

Years were spent in working out proper formulas for the metallic films and paper mache base so that the rates of expansion and contraction would coincide. Hundreds of the most successful coatings here and abroad were studied and analyzed; the electrotyping process was minutely dissected and studied.

In the individual shop where they are to be used, each Sil-

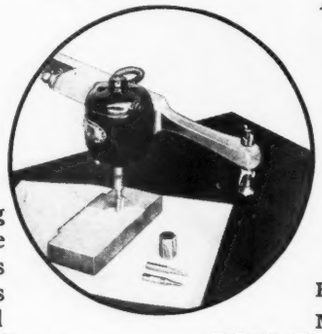
(Continued on page 28)

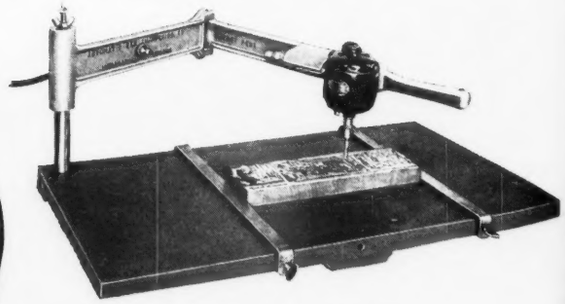
*Silvertone Process Corporation, New York, N. Y.

Here's What You Have Been Waiting For...

A Router and Type-High Planer *for*

$50





Every Newspaper and Printing Plant should have a portable router. This practical router is made on the same principle as the larger machines and will route stereotype, electrotype, linotype slugs, zinc, wood or linoleum, and has an attachment for type-high planing of stereotype casts and wood-mounted cuts.

Send your order in today for one of these Portable Routers. If you desire further information on this new Portable Router, please write.

SPECIFICATIONS

BED—Size, 25 x 15 inches; cast-iron, machined surface.

MOTOR—110-volt, Universal—either A.C. or D.C. 10,000 R.P.M. Fan cooled, General Electric make. Guaranteed for one year.

ARMS—Solid bronze to prevent breaking. Adjustable elbow with take-up for wear.

SWITCH—Conveniently located on arm, controlling motor and light.

Thumb-screw over hardened steel post controls depth of router bit.

WEIGHT—Approximately 80 pounds.

Machine complete with cord, motor, light fixture, bulb, router bits, type-high gauge and attachment for type-high planing.

AUTOMATIC SAW SHARPENING COMPANY

SHARPENERS OF PRINTERS' AND STEREOTYPERS' SAWS

312 East Ohio Street Indianapolis, Indiana

Send today for this New Book ON APPROVAL

. . . a storehouse of original ideas, layouts, inspirations to better printing . . .

156 vivid, colorful pages — more than 1000 different modern decorative designs by foremost artists — a book to save you time and money every day . . .

JUST off the press — sparkling with newness! You must see the Champion Decorative Material Book No. 2 to appreciate the wealth of valuable material it makes instantly available to you. Here are original layouts, designs, decorations — the creation of leading artists — material you can use in a thousand ways to dramatize your advertising and increase its selling effectiveness.

By all means see this book — then you will realize how invaluable it will be to you . . . how it will save you time and pay for itself over and over on a single job. Have it sent on approval, then — if you feel you can afford to be without it — return it. The bill will be canceled.

THE CHAMPION COATED PAPER CO.
HAMILTON, OHIO

Approval Coupon

THE CHAMPION COATED PAPER COMPANY
Hamilton, Ohio, Dept. V
Send me The Champion Book of Decorative Material No. 2.
If I like it, I'll keep it and pay your bill for $1.50. If I don't, I'll return it within one week and your bill is to be canceled.

Name..... Position.....

Company.....

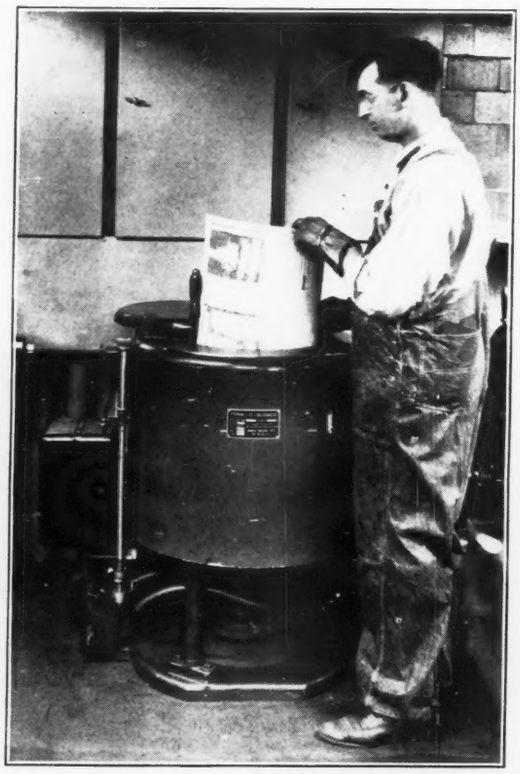
Address..... City..... State.....

BY MAIL PREPAID
$1.50
SENT ON APPROVAL

Form-O-Scorch

Centrifugal Dry Mat Former and Scorcher

Thermostat Heat Control, Uniform Temperature, Low Operating Cost



This Machine Produces Perfect Matrices Free From All Imperfections

SOLD ON TERMS

●

American Publishers' Supply Company

P. O. Box 131, West Lynn, Mass.

Silvertone—New Matrix

(Continued from page 26)

vertone is conditioned by means of a special fluid known as Silverflo. The Silvertone is immersed in this conditioning solution for a minute or two, run through very simple squeegee roller, and in one minute more is ready for molding or taking the impression. What was a dry board-like sheet two minutes ago has been transformed into a plastic, rubbery, impressionable material, which can be rolled into a spiral without injury to impression face.

The molding is done under direct pressure. The molding pressure, depending upon the nature of the original, may vary from 25 to 400 tons. Forms containing linotype slugs have been molded and 25 successive impressions made from such forms without any injury whatsoever to the type.

On top of the Silvertone is placed a suitable packing material, or series of blanketing, depending upon the nature of the form to be duplicated. Various combinations for molding and drying have been developed for halftones, line cuts and type matter, and combinations of any two or all three.

After the impression has been made in the Silvertone its subsequent handling will depend upon and vary with the nature of the work to be done. If a black and white reproduction, the Silvertone may be handled as a cold process, in which the original form is not subjected to any heat whatsoever. If color plates, requiring accurate register, are desired, the Silvertones are dried on the original form at comparatively low temperatures.

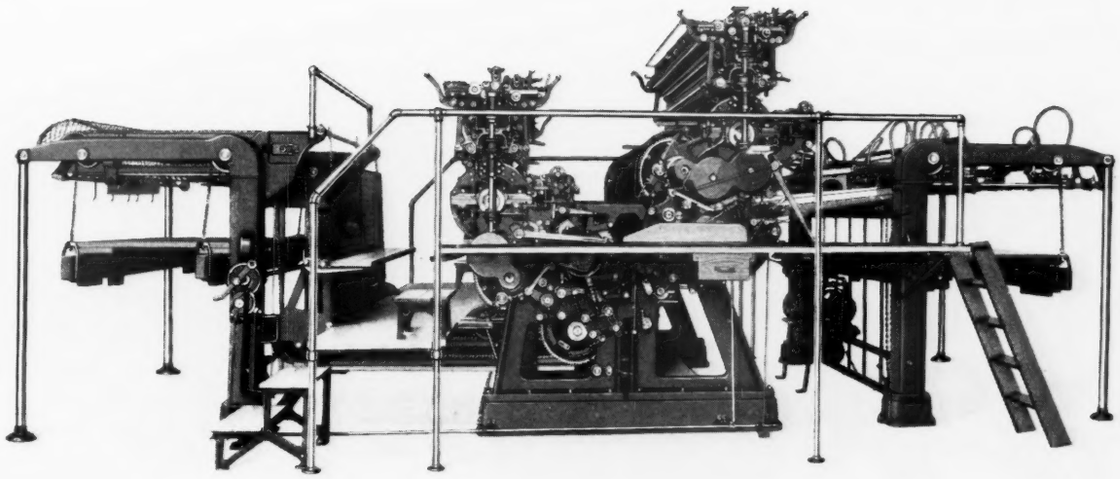
Under both methods the Silvertones are thoroughly dried preparatory to casting in the usual way. Metal of relatively high antimony and tin content is used. Whether the finished plates should be faced with nickel or chromium depends upon the number of impressions to be made from these plates when run on the processes. For average runs good quality casting metal is sufficient and plating is not at all necessary.

Named Ludlow Sales Manager

John O. King has been named general sales manager of the Ludlow Typograph Company. Mr. King brings to the duties of his position an experience of more than twenty years in practical production and selling in both the commercial printing and the publishing fields. Beginning in his student days on the student daily at Northwestern University, he has never been out of direct contact with the printing and publishing industries except for the period of his active service during 1918 and 1919 in the World War.

After his return from France in March, 1919, Mr. King became associated with the Ludlow Typograph Company. Since then, he has been actively engaged in sales promotion of both Ludlow and Elrod equipment. Thoroughly familiar through first-hand experience with the construction and operation of both of these machines, Mr. King as general sales manager will find still wider opportunity in the Ludlow organization.

"I am buying new presses



Harris LT 44″x 64″ Two Color Offset Press

—I can't afford to run my plant with obsolete equipment"★

This statement made by an outstanding leader of the industry whose modernization program has been maintained throughout the entire period of the business recession, arrests attention • The Harris offset shown above is the fifth new Harris-Seybold-Potter press installed in this plant within the past two and one-half years • Press modernization for profit is a fact—not a theory in this plant. There is no bogy fear of the future here • It is plants such as this one that are maintaining volume and making money in spite of today's conditions, and are ready on the instant to compete profitably for the increase of business with high speed automatic equipment • There are many printers and lithographers in whose plants modernization programs have been equally aggressive. It is with these plants that you must compete. What about your press equipment?

HARRIS Offset Presses · Sheet Feed · Web · Single and Multicolor · Rotary and Flatbed Letter Presses · Envelope and Card Presses / Gravure Presses · Sheet Feed Copper Plate · Web · Single and multicolor // SEYBOLD Paper Cutters · Die Presses · Bookbinding Machinery · Wright Paper Drills · Punches · Paper Perforators // POTTER Offset Presses · Sheet Feed · Single and Multicolor · Metal Decorating Presses · Premier Flatbed Letter Presses · Cutters and Creasers

★ *Certified an actual statement as reported*

HARRIS · SEYBOLD · POTTER

HARRIS-SEYBOLD-POTTER COMPANY // General Offices: 1385 Union Trust Building, Cleveland, Ohio
Sales Offices: New York, 461 Eighth Avenue / San Francisco, 555 Howard Street / Chicago, 343 South Dearborn Street / Dayton, 813 Washington Street // Factories: Cleveland and Dayton

IMPORTANT ANNOUNCEMENT

for

ALL NON-USERS OF IMPERIAL TYPE METAL

Prices on lead, tin and antimony are almost unbelievably low at this time.

This gives metal users a market situation that affords a wonderful opportunity to make metal savings. Have your type metals analyzed and determine whether they are up to ideal casting standards.

If upon analyzation it is found that your working supply is below standard, take advantage of these low metal prices, and make your type metal corrections *now* with little expense.

Here's a metal opportunity that isn't likely to come again in years and years. Act now — send samples of your metal to be analyzed. Call upon the laboratories of the Imperial Type Metal Company for your analytical work — there is absolutely no obligation attached to this offer.

First analyze — then IMPERIALIZE.

Have you tried **VITAFLUX?**

VITAFLUX, the new dross reducing and metal revitalizing compound reduces dross and enhances the casting properties of your metal. Prices, $2.75 per box, or $2.50 per box for twelve or more boxes.

THE IMPERIAL TYPE METAL CO.
Philadelphia · New York · Chicago · Los Angeles

Imperial

Elect Officers

The Fifteenth Annual Convention of the National Association of Printers' Roller Manufacturers was held at the Hotel Commodore, New York, February 8 and 9, 1932. The following officers were elected:

President, Carl G. Bingham (Samuel Bingham's Son Mfg. Co., Chicago, Illinois); Vice President, Frank H. Stevens, Jr. (Wild & Stevens, Inc., Boston, Mass.); Treasurer, Charles S. Hadley (O. J. Maigne Company, New York, New York); Secretary, William P. Squibb (Godfrey Roller Company, Philadelphia, Pa.).

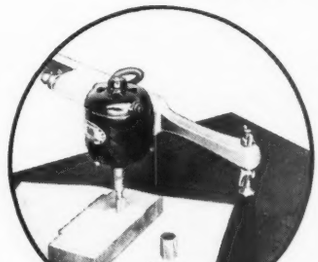
The following directors were elected: James F. Brinning, National Roller Company, New York, New York; Fielding A. Utz, Jr., Milwaukee Printers' Roller Co., Milwaukee, Wisconsin; John S. Robertson, John S. Robertson, Montreal, Canada; D. S. Hamilton, J. H. Osgood Company, Boston, Mass., and Frank A. Reppenhagen, Frank A. Reppenhagen, Buffalo, New York.

Contemporary Title Pages

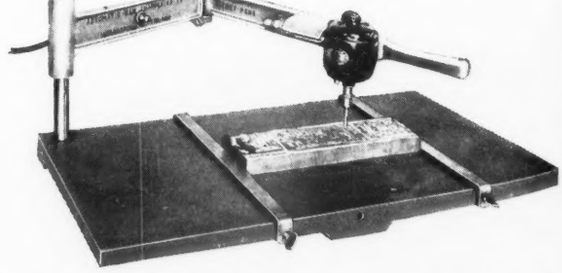
"Contemporary Title Pages" has just been published by The Mergenthaler Linotype Co. The book presents ninety-nine title pages from as many books published in 1930-1931, including twenty-one of the 1931 "Fifty Books of the Year," and an introductory note by W. A. Dwiggins.

Several printers and book designers who have seen advance copies of the book feel that it will prove interesting and helpful, not only to printing apprentices, but to more advanced students of typography, as well as to full-fledged book designers.

Portable Router and Type High Planer



The Automatic Saw Sharpening Company, 312 East Ohio St., Indianapolis, Ind., has announced a Portable Router and Type High Planer for use in commercial, engraving and newspaper plants, for the routing and planing of line composing machine slugs, stereotypes, electrotypes and zinc etchings. The machine is provided with an attachment for the planing of type high casts and wood-mounted electrotypes, as well as being highly efficient in the routing of hair-line cuts. The Portable Router



is completely equipped with router, motor, light fixture and a type high gauge.

The movable router arm is very flexible and is easily handled. Further particulars may be obtained from the Automatic Saw Sharpening Company at the address given above.

Conveyor System

(Continued from page 22)

pressure air to pass into the cylinder back of the counterweight, which gives the car a quick start and helps it to speed to its delivery point on the floor below. This shot of air is momentary and is not continuous. Therefore, the car is stopped gently at the bottom in unloading position by means of an air cushion between the top of the counterweight and the top of the air cylinder. Attached to the car is an automatic kicker, which operates when the car reaches its destination, and tends to kick the stereotype plate out of the car onto the gravity roller conveyor.

As the plate clears the car, it operates another circuit-maker which is connected to another solenoid and opens up the air at the top of the cylinder above the counterweight and again this shot of air tends to hasten the travel of the counterweight downward, pulling the car to the upper position where the action of stopping the car by means of a cushion of air again takes place. As soon as the car leaves its upper position in taking a plate to the floor below, there is an automatic stop which comes into place on the gravity, so that any plates delivered to this gravity from the stereotype plate shaver will remain on gravity until the car on drop returns to receive them.

There are four of these pneumatic drops and they feed off onto four gravity lines. These four lines all converge into one line which deliver the plates to the pressroom floor conveyor. Between the plate drops and this press room floor conveyor, there is an automatic non-interfering device which is arranged so as to release one plate at a time. Twenty-four plates can be accommodated per minute, delivering from the four plate drops to the one press room floor conveyor without collision.

The non-interfering device consists of a through-shaft, on which there are four cams, running underneath all four conveyor lines, one for each conveyor line. This shaft operates at a speed of six revolutions per minute and the cams are so set to release a stop on each conveyor six times per minute, long enough to let one plate clear this stop. The drop is built to carry six plates per minute each, making a total of twenty-four stereotype plates being sent to the four gravity lines, on the press room floor, per minute, when operating at full capacity. This means that the non-interfering device is one of the most essential as well as intricate parts of the system, and must be correct in order to have a successfully operating system.

The press room floor conveyor is set below the press room floor so that the top of the roll is level with the floor, and consists of a series of live ball bearing rolls turned by means of a belt. The press room floor is slotted so that the stereotype plate will travel horizontally on the plate edge. The floor plates located between these slots also act as a guide so that the outside surface of the plates cannot strike the outside edge of the floor and damage the printing surface of the plate. This conveyor operates at a speed of about 150 ft. per minute. It runs the full length of the press room, and is used to carry most of the new stereotype plates to the press and takes the used plates away from the press. The new plates are marked as to which press they are intended for, and are picked off by hand as they pass their respective presses.

At the end of this press room conveyor a continuation of gravity roller conveyor is applied, which carries the plates back to the elevator where they are taken to the melting machines on the second floor. This gravity roller conveyor runs practically the full length of the building and is pitched sufficiently to carry the plates by gravity from the point connecting the press room floor conveyor to a distance of 24 in. from the floor.

Burgess Chrome Mats

A Laboratory Product

●

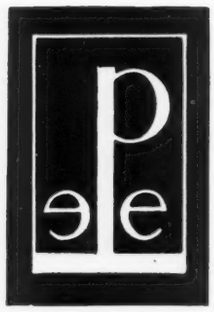
A QUALITY MAT FOR PUBLICATIONS THAT CARE

No expense is spared by us to attain the highest quality; yet through economy in operation and sales, we are able to distribute our mats at a price equal to or below that charged for inferior products.

• Play Safe •
Use Burgess Chrome Mats

●

BURGESS CELLULOSE COMPANY
Division of C. F. Burgess Laboratories, Inc.
Freeport, Illinois



Who *should advertise in* PRINTING EQUIPMENT ENGINEER ?

A MESSAGE *for* PRINTING EQUIPMENT MANUFACTURERS

● If your salesmen call on the mechanical executives in the plant—if the mechanical executives' good will is essential to your sales . . . then by all means back up your salesmen with advertising in *Printing Equipment Engineer*.

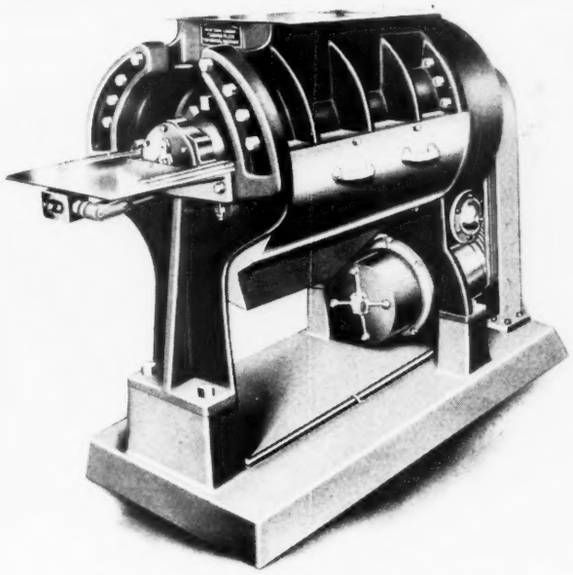
● It is the only printing magazine whose readers, all of whom, purchase or recommend the purchase of printing equipment or supplies . . . our readers can make or break your sales.

● *Printing Equipment Engineer* is the only equipment magazine in the printing field, it is the only publication edited for and read by the mechanical executives exclusively. . . no front office circulation.

● Our editorial policy—"A magazine edited for those concerned with the use and care of printing equipment" . . . editorial matter and advertising go hand in hand.

● Our advertising rates are unusually low—coverage in March issue, "Over 6,000 mechanical executives." Send for rates, detailed information.

PRINTING EQUIPMENT ENGINEER
1370 ONTARIO STREET, CLEVELAND, OHIO



The fastest and most accurate curved plate thinning and shaving machine on the market

NEW HOE
PRECISION
CURVED PLATE
THINNING AND
SHAVING MACHINE

A real precision machine extremely accurate and exceptionally fast. Modern design—anti-friction bearings throughout—all gears fully enclosed, running in grease-packed cases.

EXCLUSIVE FEATURE

Stereotype plates fed in at top of machine, face up, gives easier handling, protects type face of plates and keeps plates always clean and free of chips.

R. HOE & CO., INC.

GENERAL OFFICES

138TH STREET AND EAST RIVER, NEW YORK

BOSTON ▲ CHICAGO ▲ SAN FRANCISCO ▲ NEW ORLEANS ▲ LONDON

Offset Plate Graining

(Continued from page 10)

ready for use. The tracing is made with a lithographic touche or autographic transfer ink. By moistening the finger and taking hold of one corner of this paper, one may easily determine the side to be drawn upon, as the coated side will stick to the finger. The image must be protected from contact with the hand, as the coating readily absorbs grease. If great care is not exercised, the finger prints and impressions of the hand will appear upon the plate after the transfer has been worked up. In an emergency any "sized" paper, capable of absorbing ink, may be used as a substitute, though the results will be markedly inferior.

The work is performed in the following order: A tracing of the drawing or sketch is made upon transfer paper or impressions taken on its surface from some kind of a master plate and allowed to dry, after which it is placed in a dampening book, consisting of four or five blotters thoroughly moistened with clean water. The tracing impression is left in this book until it becomes moist. This causes it to adhere to the plate while being transferred and prevents it from slipping, smearing or double printing.

If the press plate contains old work, onto which the transfer is to be made, it is removed by applying freely with turpentine and rubbing with a large piece of cheese cloth. (This removes the ink, but not the greasy impression.) After this, all trace of the impression is removed by applying the following solution: Mix

1 lb. of Caustic Soda.
5 pts. of Water.

Stir until dissolved, strain through cheese cloth if dirty. Rub this solution thoroughly into the plate with a piece of felt or cheese cloth. The plate is then washed with water to remove the potash, after which a neutralizing solution, composed of the following mixture, is used: Dissolve:

½ lb. Powdered Alum in
1 gal. of Water;
Add 6 oz. of Nitric Acid;
Shake well.

This must only be used after the plate has been cleaned with caustic soda. When applied, this counteracts the effects of any potash remaining after the final washing. This should remain on the plate for about half a minute. The plate is then given a final washing with clean water, dusted with pumice, rubbed slightly, re-washed, then dried either by heating or fanning. If the plate is new, washing with clean water is sufficient.

The tracing or impression is then taken from the dampening book and placed upon the plate, ink side down, and covered with a clean sheet of paper. This prevents any grease or dirt from reaching the plate during the transfer operation. The plate is then run through the transfer press three or four times with increasing pressure.

(To be Continued)

Of Course WOOD DRY MATS Ought To Be Good

FOR nearly seventeen years, we have specialized in Dry Mat production. We have manufactured, tested and experimented. A leading chemical authority has counselled with us on the materials and the processes. Right here in our own plant, we have subjected our product to the same tests of practical use which it gets in the newspaper stereo room. We know what can be expected under the many different sets of conditions to which it will be subjected.

The hearty approval of a vast majority of the daily newspapers of this continent has been given to Wood Dry Mats on their merit. What better testimonial to this merit can be found than the approval of continued daily use?

WOOD

FLONG CORPORATION
HOOSICK FALLS, N.Y.

Observes Anniversary

J. Edgar Lee, President of the Challenge Machinery Co., Grand Haven, Mich., Has Had a Colorful Career in Business and Civic Affairs.

FIFTY years of employment and service with practically one concern, and in one line of business is the notable record of J. Edgar Lee, President of The Challenge Machinery Company, Grand Haven, Michigan. On March 1, 1932, Mr. Lee celebrated his fiftieth anniversary in the printing machinery and supply business, and was the recipient of many telegrams and letters from friends in the graphic arts industry in numerous parts of the United States.

J. Edgar Lee was born in Chicago, Illinois, January 7, 1866. In March, 1882, he commenced work as an errand boy and collector with Schniedewend & Lee, electrotypers and dealers in Campbell printing presses and printers' supplies. As the business of the company increased, Mr. Lee was given added responsibilities. In 1887 the plant was destroyed by fire but was rebuilt. In 1893 the firm failed and was reorganized under the name of The Challenge Machinery Company. In 1903 the company was moved from Chicago to Grand Haven, Mich. The business grew rapidly, and in 1907 a spacious grey iron foundry was added to the Grand Haven plant.

Mr. Lee has invented and patented numerous machines and devices for use in the graphic arts. He has had extensive technical training in electrotyping, machine shop work, printing press work and in preparing scientific layouts for floor plans for printing and publishing plants and has made a specialty of designing patent plate-mounting systems and registering devices, especially as they relate to register for color printing plates and narrow margins. He has always taken a keen interest in the business activities of printers' organizations and has given liberally of his time and talents in the civic affairs of Grand Haven. During the World War he was kept busy with local work for the U. S. Government in the five Liberty Loan Drives.

Mr. Lee owns a fine home in Grand Haven. He has a hobby for motor car travel and usually spends the winter season either in Florida or California. As a matter of record he has long been prominent with numerous friends, civic, fraternal and social organizations.

Mr. Lee has been editor of *The Printers' Album*—a house magazine published by The Challenge Machinery Company, since 1917. J. Edgar Lee has one son, J. Wesley Lee, who is Vice President of The Challenge Machinery Company.

February Patents

(Continued from page 18)

larger of the said chambers, another with the smaller thereof; a non-return valve arranged in the first-mentioned chamber and adapted to open automatically when an over-pressure arises in said smaller chamber; main outlet valves so arranged as to permit the emptying of both chambers, and an auxiliary outlet valve for the same purpose; cam-disks so arranged as to be adapted to open said valves and being so shaped that first said auxiliary valve and thereafter said main valves are opened, and means for turning said cam-disks.

1,845,384. PRINTING PRESS JOGGER. JULIUS ZEBELEAN, Covington, Ky. Filed Oct. 15, 1929. Serial No. 399,837. 1 Claim. (Cl 271—89.)

1. As an article of manufacture, a pusher finger-blade or paper-jogger for use in printing presses and the like, the same comprising a main blade-member and a fastening plate-member, said blade-member being flexibly mounted on the upper edge of the said fastening plate-member and the latter, in turn, being adapted to be secured for jogger or evener use on a rock-shaft in the delivery end of the press.

1,845,412. STUFFING MACHINE. EDWARD A. HATHAWAY, Los Angeles, Calif. Filed July 16, 1923. Serial No. 651,989. 37 Claims. (Cl. 270—55.)

1. In combination, means for opening a newspaper outside of the cover, and feeding means positively engaging the cover during opening thereof and at a point in advance of its trailing end.

1,845,617. STAPLING MACHINE. IRVING R. METCALF, St. Charles, Ill., assignor to Latham Machinery Company, a Corporation of Illinois. Filed May 2, 1929. Serial No. 359,743. 12 Claims. (Cl. 1—48.)

1. A stapling machine comprising complementary casing frame members, a reciprocating driving and severing member mounted in said frame, a compressible spring for imparting an impact to said reciprocable member, a rotary driven member for compressing said compression spring, and means actuated by said rotary member for positioning each successive staple in the path of said reciprocable member whereby said reciprocable member may drive said staple into the work.

1,845,725. HEADBANDING APPARATUS. WILLIAM C. SCHMIDT, Oak Park, Ill., assignor, by mesne assignments, to T. W. &. C. B. Sheridan Company, New York, N. Y., a Corporation of New York. Filed July 18, 1927. Serial No. 206,723. 33 Claims. (Cl. 11—1.)

1. A back lining and headbanding machine for a book binding apparatus comprising means to form headbands, means to attach the headbands to back linings and means to attach to books the back linings with headbands affixed.

1,845,769. MATRIX SCORCHER. HAROLD E. TRENT, Landsdowne, Pa. Filed Jan. 22, 1929. Serial No. 334,342. 3 Claims. (Cl. 219—19.)

1. Apparatus for drying flongs comprising a semi-cylindrical form for receiving the flong, and electrical heating elements within said form and lying in a curved area of greater radius than the form.

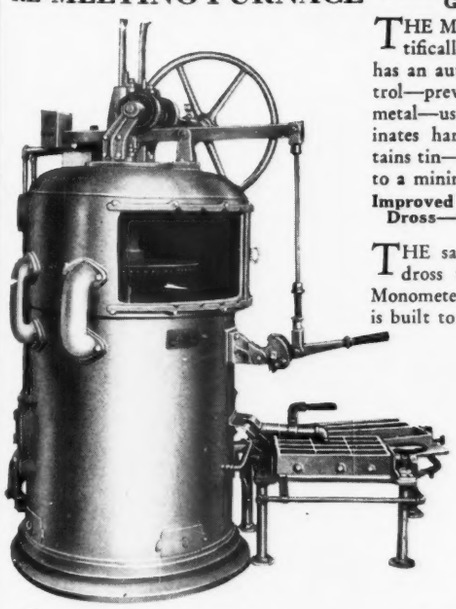
1,845,849. TYPE JUSTIFYING MECHANISM. GEORGE HENRY SAND, Cincinnati, Ohio. Filed July 19, 1930. Serial No. 469,027. 6 Claims. (Cl. 101—381.)

1. A type justifying mechanism for title printing including a pallet having means for supporting lines of type, pairs of plungers, the plungers of each pair being arranged at opposite ends of a respective line of type, a head supporting said pallet, bell cranks supported on said head and arranged in pairs, one arm of each bell crank engaging a respective plunger, the remaining arms of each pair being interlocked, and pull mechanism for moving the pairs of bell cranks simultaneously, said pull mechanism including yieldable springs whereby to permit one pair of the plungers to operate upon stoppage of movement of another pair of plungers.

1,845,914. APPARATUS FOR DRYING A STEREOTYPING MATRIX. CHARLES R. GREEN, Indianapolis, Ind. Filed Oct. 20, 1930. Serial No. 489,927. 6 Claims. (Cl. 34—16.)

1. A matrix-drying apparatus including a cylindrical oven horizontally arranged and having a perforated lower portion constituting a bed for a matrix, one end of the oven being provided with a hinged door, guide bars adjustably mounted in the oven to guide opposite edges of the matrix, means to force the guide bars each away from the other against said edges, a pipe to conduct compressed air into the oven, and means to supply heated air to the matrix.

Every Newspaper Plant
can profitably install
Monarch Monometer
RE-MELTING FURNACE **Operated with Electricity Gas or Oil**



THE Monometer is scientifically constructed. It has an automatic heat control—prevents burning of metal—uses less gas—eliminates harmful fumes—retains tin—and reduces dross to a minimum.

Improved Metal—Reduced Dross—Saving in Fuel

THE saving in fuel and dross will pay cost of Monometer in one year. It is built to last a lifetime.

Write for Catalog P. E. E.

The Monarch Engineering & Mfg. Co.
701-702 American Bldg., Baltimore, Md., U. S. A.
Works, Curtis Bay, Md.

The AUTOMATIC EJECTOR SET

will change the Linotype ejector every time the operator changes from one mold to another . . . we guarantee that. You do not take the least risk. We will let you operate the unit for thirty days on your own machine before you pay one cent. Don't take our word for it, see it in operation in your own plant.

•

WRITE FOR ADDITIONAL INFORMATION

The Time Saving Device Co., Inc.
599 Kenmore Ave., S.E., Warren, Ohio

Paper Cutting and the "Electric Eye"

The operation of a paper cutter so as to maintain registry between the cutting operation and the printed matter on the surface of the paper can now be controlled by photoelectric equipment. At the time the printing is put on the paper, a spot is printed in the margin and this spot passes before a photoelectric tube mounted on the machine. As long as the spot passes before the tube when the cutter is in the proper position to cut in registry with the printing (as determined by a contact disk on the cutter shaft) the photoelectric equipment does not function. If the spot appears before the photoelectric tube when the paper is not in synchronism with the cutter knife, a circuit is energized which momentarily increases or decreases the speed of the cutter knife.

By this means, the cutting is kept in registry with the printing despite slippage and stretching of the paper. Because of the high linear speed of the paper and the desirability of keeping the spot as small as practicable, it is necessary to use Thyratron tubes to respond to the amplified photoelectric impulse and energize the magnetic devices required to increase or decrease the speed of the cutter knife. In one installation, this equipment responds reliably to a spot which passes before the photoelectric tube in one four-hundredth of a second.—*From John Liston's Annual Review.*

A Typesetting Machine Can be No More Efficient Than Its Belting!

That is why you should use ONLY

Ace Round Assembler Belts

for your Intertype or Linotype

•

WHAT AN ACE BELT IS

An Ace Assembler Driving Belt is of endless cord-rubber construction. It is unaffected by dampness or atmospheric changes, the enemies of leather belting. Its traction is as great after long service as when new, thus assuring full driving power during its entire life. Once installed, it needs no further attention.

ACE BELTS WILL NOT SLIP

They are guaranteed for a minimum of one year's service. Many composing rooms have already standardized on this superior product for greater efficiency and lower costs. You should, too.

THEY ARE AVAILABLE

for all Intertype machines; for late Linotypes, with direct gear assembler drive. (Not made for angle-drive machines.)

Price, each, $1.25

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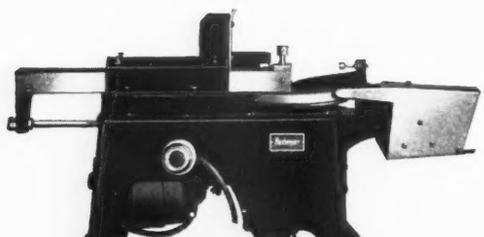


Are You Cleaning Spacebands By Hand?

—if you are you should write immediately to get complete information on the

Rockaway Spaceband Cleaner

This machine will clean, polish and graphite thirty bands per minute, true the sleeve of band to give a perfect lockup of matrices, lengthen spaceband or matrix life, and save you enough money in a year's time to pay for itself. Don't put up any longer with expensive hand cleaning. Write today and get detailed information and prices without obligation on your part.

THE ROCKAWAY COMPANY
5409 VLIET STREET MILWAUKEE, WIS.

Latest Printing Equipment Mechanisms

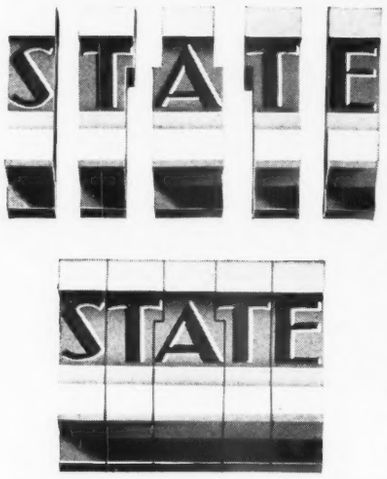
(Continued from page 17)

rollers, one fountain ductor roller and one steel fountain rider roller. Rollers do not reverse on form. Large diameter form rollers practically covers full form in one revolution.

The inking mechanism, including all but the form rollers, lifts up out of the way. Delivery carriage is similarly removable, and both are counterbalanced to require only minimum effort in lifting. All press controls are located on the operating side.

The details of many other features which cannot be described here may be obtained from the manufacturers.

Ludlow's Mortised Matrices



To make possible composition with all bad letter combinations eliminated, the Ludlow Typograph Company, 2032 Clybourne Ave., Chicago, Ill., is producing on special order mortised matrices for all fonts. In the accompanying illustration these matrices are shown separated, to make their construction clear, and then together, as they combine in composition. Matrices for about twenty-seven mortised characters are required to meet the average requirement. These comprise three each of A, T, W, V, and Y (mortised on the left, on the right, and on both sides), and L and F (mortised right side). In the lower case alphabet a, e, o, u, r, w and y are mortised on the left side only. They are made for both roman and italic fonts.

With these matrices in the upper row of compartments in the Ludlow case, composition with well-fitted letter combinations can be set almost as easily as composition showing many awkward holes of white space. The completed form of Ludlow composition is tight and firm in the lock-up. This constitutes one more refinement in typography which is available on the Ludlow at reasonable cost.

Dry Mat Manipulation

(Continued from page 16)

in the automatic casting boxes in summer time by causing the plates to "bleed."

Tin not only gives body to the alloy, but adds toughness. When too much tin is present it causes a stringiness that dulls the saws.

One of the main properties of tin is its ability to give that perfect printing surface to the plates.

A good formula for casting stereotype plates consists of 4½ per cent to 5 per cent tin, 12 per cent antimony and balance lead.

The casting temperature of stereotype metal is governed to some extent by the texture of the mats used. Ordinarily the more firm, fine textured mats will require slightly higher casting temperature for best re-

Oh! What a proof press

ONE PROOF --- A DOZEN --- OR A HUNDRED

No. 23 Vandercook Electric Proof Press. Printing surface, 15 x 28; Floor space, 25 x 52: Bearings, 43 ball-bearings packed in grease. Practically eliminates lubrication service.

The touch of a toe

. . . and out they come

40 a minute

The new Vandercook No. 23 Electric Proof Press places in the hands of newspaper men, publishers and printers a proofing service equal to that of three or four ordinary proof presses.

Good, presentable proofs for customer or proof-reader—no fussing—no make-ready. A touch of the toe starts, stops or continues to run. The ink distribution is perfect—the impression cylinder will accommodate large variations in galley thickness and form height.

Write for full particulars

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the original modern

PROOF PRESS

VANDERCOOK & SONS, INC.

940 North Kilpatrick Avenue Chicago, Illinois

sults. For the soft textured mats the metal temperature may be worked at 575 deg., 585 deg., and running up to 620 deg. for the more firmly textured mats. The thing to remember is to work the metal at as low a temperature as conditions will permit.

Keep the water circulation at as low a temperature as will give good results. This will help lower the metal working temperature.

Keep the metal up to standard. Often the metal will be working o. k. one week and present distressing results the next.

Sweepings should never be thrown into the metal pot for they are quite likely to contain zinc and copper filings or shavings. Both zinc and copper are very injurious to stereotype metal. They cause sluggishness, excessive dross and corrode the casting equipment.

In flat-casting you may keep the metal as much as 50 deg. lower than the metal temperature required for casting plates for the press, especially the small ad plates.

Gas streaks indicate too hot metal, as does honeycombing, excepting when a cool box is used.

By the way, how many of you fellows cultivate the factory representative? Do you realize that the manufacturer has hired him because he has a sound and practical knowledge of stereotyping? Do you realize further that he is also taken on because of the manufacturer's faith in his ability to study his product and learn the best way to handle it in the various plants under various conditions?

Well, the factory representative is always studying and learning how to overcome complaints of all kinds and descriptions. Every plant he goes into is a subject for study.

Now, ordinarily, if he lives up to the expectations of his company he becomes an expert in the true meaning of the word for he has the opportunity to study more out-of-the-ordinary conditions in stereotyping in a few months' time than will come to the average stereotyper in a lifetime.

If you will permit, he can be of great assistance to you and as a rule he is always willing to impart his knowledge to you upon request. That's his job. He will not very often volunteer helpful information unless it is asked for, because some stereotypers feel that they know their business and often consider it an affront to their intelligence if a well-meant suggestion is offered.

Remember this, the manufacturer of the material you use is very much interested in seeing that you get good results. He employs men who are ready and willing to aid you to obtain the highest degree of satisfaction from the use of his products. If you experience any difficulty in obtaining the satisfaction you are entitled to, get in touch with the manufacturer at once. If it should happen that the particular company cannot help you—well, there are others who can and will.

FOR SALE -- GOSS SEXTUPLE

presses, installed in 1926, with quick-acting plate clamps and high-speed folders. These presses are available at very advantageous prices.

BOX 11

Care of PRINTING EQUIPMENT ENGINEER
1370 Ontario Street Cleveland, Ohio

Advertising in PRINTING EQUIPMENT ENGINEER *keeps you informed on new and improved equipment for the printing industry.*

MONOTYPE PARTS REBUILT
and
New Monotype Accessories

Prompt Service — Less Expensive — All Work Guaranteed

(Customers Everywhere—Send for Price List)

NEWTON MACHINE CO.
211 High Avenue Cleveland, Ohio

In answering these advertisements say you saw them advertised in PRINTING EQUIPMENT ENGINEER.

Linotype and Intertype Repair Service

Molds—side knives—back knives—1st elev. back jaws—spacebands—dist. box bars—2nd elev. bars—magazines—motors—dist. screws made like new—driving shafts bushed—general repairing of parts. Also make special Linotype and Intertype tools—Matrix ear file gauge $2.50—magazine expander $4.50—magazine broach $4.50—liner cutting gauge $25.00—fiber motor pinions for all makes of motors and special pinions made to order.

William Reid & Co. 537 S. La Salle St. Chicago • Illinois

Manufacturers want to know where you saw their advertisements—tell them PRINTING EQUIPMENT ENGINEER.

SAW-TRIMMERS "DE LUXE" "DO-MORE" "KALAMAZOO"

Routers, Stereotype Saws, Jig Saws

"BULLDOG" SAFETY CLAMPS AND DIRT-PROOF SPEED GAUGES FOR MILLER, ETC.

TWO RICHARDIZED MILLERS ON HAND

STEEL RULE DIES

J. A. RICHARDS CO. KALAMAZOO MICHIGAN

Don't forget! Mention PRINTING EQUIPMENT ENGINEER *when answering these advertisements.*

Manufacturing Opportunity

For sale, complete manufacturing and sales rights on device used in all stereotype foundries and pressrooms. The device has been extensively advertised. Sales possibilities excellent. Patent applied for. An ideal addition for any manufacturer with salesmen calling regularly on the printing trade. For full particulars, write—

Box 12, *Printing Equipment Engineer*

When writing advertisers please mention

• PRINTING EQUIPMENT ENGINEER

New Catalogs, Books and Bulletins

Readers of PRINTING EQUIPMENT ENGINEER who are interested in securing any of the catalogs, books or bulletins listed below can do so by checking the literature desired. Mark carefully only that literature which you wish to receive. Fill out the coupon and send it to us. The literature will be forwarded without cost except where noted.

Champion Book of Decorative Material—An elaborate presentation of borders, decorative motifs, initial letters and swash capitals which may be obtained in electrotype form at reasonable cost. Examples of artistic layout, page arrangement and many other aids to the printer are given. The book is 9 in. by 12 in., 156 pages and sells for $1.50.

Tycos Instruments—A 24-page illustrated booklet describing temperature indicating thermometers and pyrometers for use in monotype casting machines, stereotype pots, etc., used in the printing industry.

Improved Tipping Bed Plate Graining Machine—Circular illustrating and describing plate graining machine made by McKinley Litho Supply Co.

Plate Thinning and Shaving Machine—Booklet by R. Hoe & Company, Inc., describing and illustrating the new plate treating machine.

Electric Melting Pots for Flat and Job Casting—Booklet issued by General Electric Co. Ask for Booklet GEA-164C.

Key Lock Paper Roll Spindle Chuck, Newsprint Roll Chucks and Automatic Roll Change—A series of three folders illustrating and describing the various mechanisms as listed above.

Multi-Unit Pressure Base—A folder describing and illustrating a new patented base for finishing electrotype plates mechanically.

Mailing Tables—Folder describing and illustrating a line of steel mailing tables which are built to fit the individual problems and needs of the customer.

Niagara Air Conditioner—A folder illustrating and describing the conditioning equipment made by the Niagara Blower Co., which warms, cools, dries, moistens or cleans the air in plants of the various process industries.

Printing Equipment Engineer,
1370 Ontario St., Cleveland, Ohio.

Gentlemen: Please send the literature checked above without obligation.

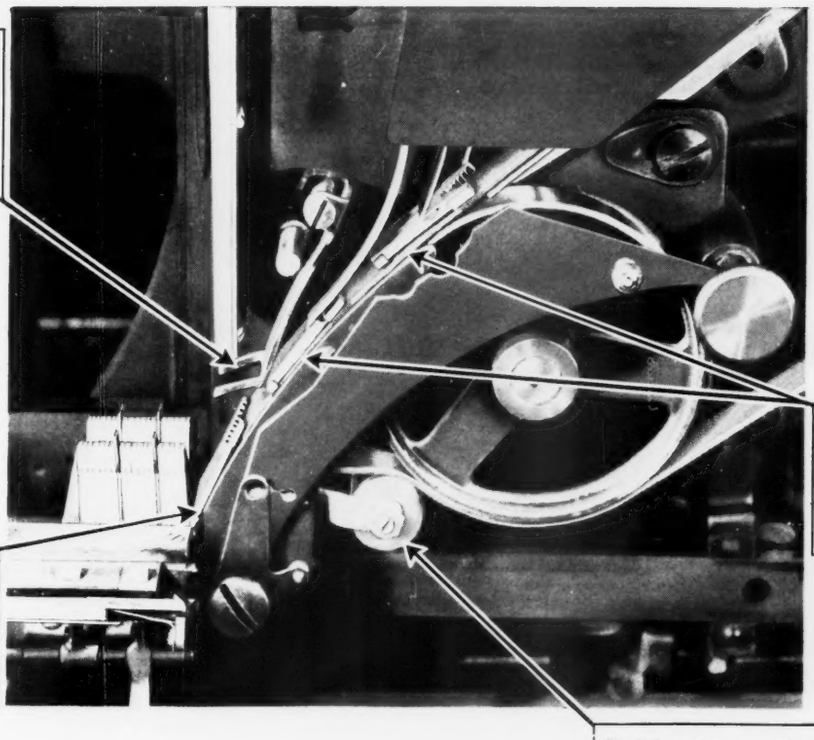
Name of Company .....

Attention of .....

Position .....

Street Address .....

City ..... State .....


Matrices are driven past the chute spring by conveyor belt direct to star wheel. No clogging. Positive action.
Matrices do not contact with chute rails. No burring or bruising. Protected by conveyor belt.
Matrices are forced to assembling elevator by conveyor belt. No bouncing. Perfect assembly. Rapid assembly.
Ball bearing, self aligning idler. Grease packed. Leak proof. Controlling tension of conveyor belt and traction on drive wheel.

Lyons Improved Assembler

represents vital new features in assemblers for Linotype machines. You will be amazed with the fast, smooth and positive action of this new device, which ELIMINATES MECHANICAL TRANSPOSITIONS.

There is no speculation in ordering a Lyons Improved Assembler—the dollars and cents savings in eliminating mechanical transpositions—will pay its purchase price in a short time—to say nothing of the saving in wear and burring up of matrices, compared to old type assemblers.

Now available for Linotype Models 3, 5, 8, 14, single or double keyboard, 18, 19, 25, and 26. Interchangeable with Linotype assembler parts, built complete with special composition belt and star wheel, ready to attach.

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New Intertype Invention

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HAVE BEEN LOOKING FOR JUST SUCH A MECHANICAL ADVANTA

This new invention:

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2. Automatically centers lines on any length of slug with speed and accuracy—and without the use of spacing material;
3. Quads and/or centers lines with or without the use of spacebands;
4. Does not in any way interfere with the normal function of the machine.

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AT LESS THAN STRAIGHT-MATTER COS

Set in Intertype Vogue and Vogue Bold with special characters. Three lines e